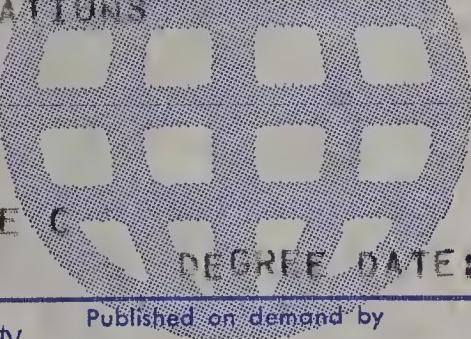


COUNSELING IMPLICATIONS OF THE
MINNESOTA MULTIPHASIC
PERSONALITY INVENTORY FOR
BLIND PEOPLE IN SELECTED
OCCUPATIONS



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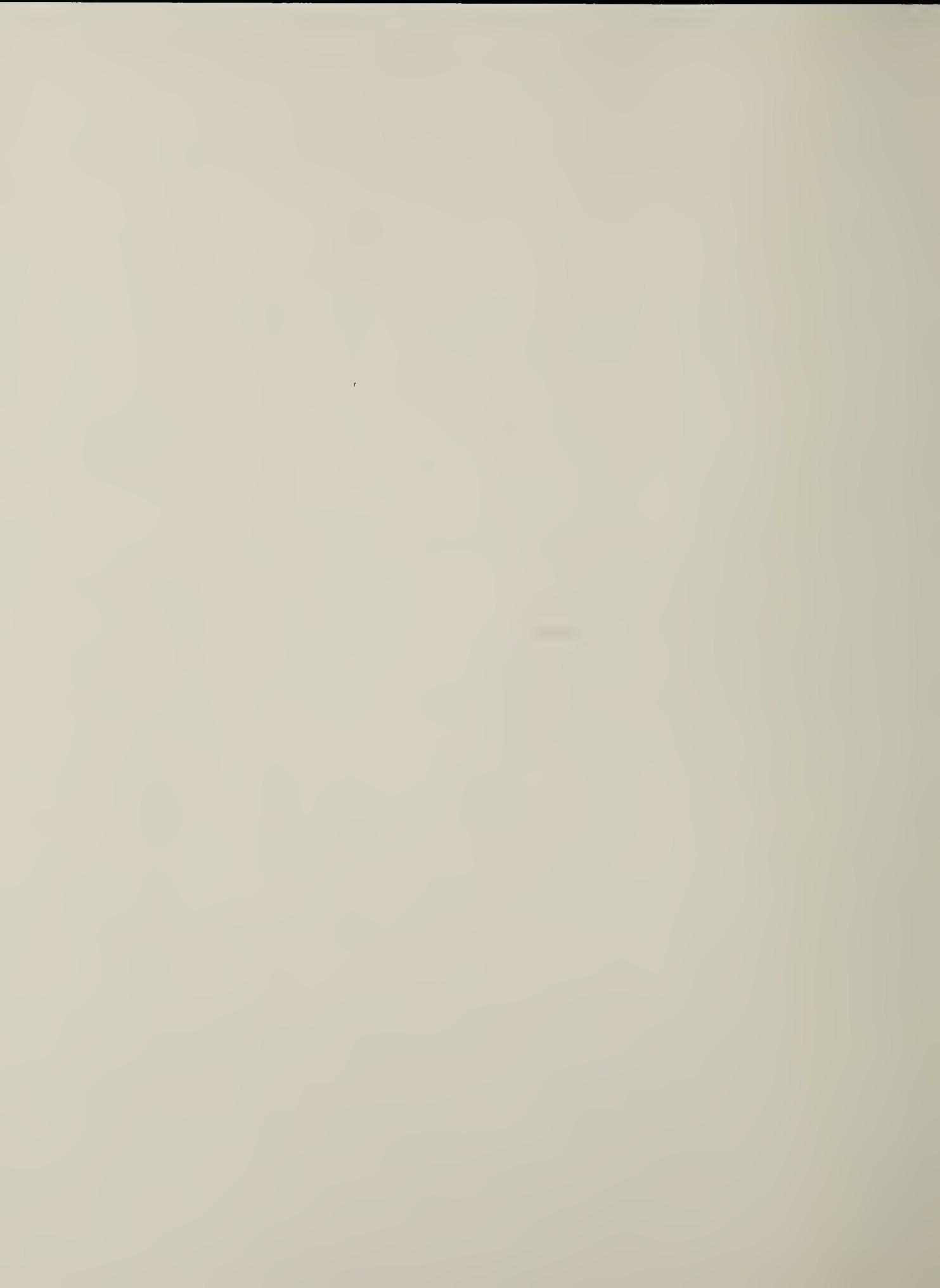


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COUNSELING IMPLICATIONS OF THE MINNESOTA MULTIPHASIC
PERSONALITY INVENTORY FOR BLIND PEOPLE
IN SELECTED OCCUPATIONS

BY

EDWARD CARL BONK

Submitted in partial fulfillment of the requirements
for the Doctor of Education degree
in the School of Education
Indiana University
August, 1955

Accepted by the faculty of the School of Education,
Indiana University, in partial fulfillment of the requirements
for the degree Doctor of Education.

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Director of Thesis

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E. C. B.

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CHAPTER I

INTRODUCTION

Attempts have been made to estimate the number of blind people in the United States, as accurate statistics regarding the prevalence of blindness have not been available. This lack of accurate statistics has been due mainly to the variations in the definition of blindness used by states and agencies concerned with the blind. In 1952 Hurlin¹ estimated the rate of blindness to be 1.98 per thousand population. His rate of blindness gave an estimated 308,419 blind persons in the United States. The rate of blindness is higher in southern than in northern cities and also higher for nonwhite people. At the time of the present writing, the Indiana Board of Industrial Aid and Vocational Rehabilitation for the Blind estimated there were 6,000 blind persons in Indiana, 75 per cent of which were 65 years of age or older. Twenty per cent of the remaining group were of preschool and school age. Approximately 1,200 blind persons remained of which 10 per cent had handicaps other than blindness which made it not feasible to employ them. Approximately 1,000 blind persons remained who could qualify for vocational rehabilitation.

When the present study was made, each state was responsible for the vocational rehabilitation of the blind,

¹Hurlin, R. G., "Estimated Prevalence of Blindness in the United States," Outlook for the Blind 47:192, September, 1953.

whether it was taken care of under the Vocational Rehabilitation division, the Department of Education, the State Department of Public Welfare, or a separate agency specializing in the vocational rehabilitation of the blind. Separate agencies for the rehabilitation of the blind were found in 36 states. In the remaining states and territories, services for the blind were carried on by specialists in the Division of Vocational Rehabilitation as well as services for other handicapped individuals. Indiana had a separate agency in Indianapolis known as the Board of Industrial Aid and Vocational Rehabilitation for the Blind which served the blind throughout the state. The counselors in this office had the responsibility of rehabilitating the blind persons who came to the office for aid. They recognized the importance of placing persons having particular personality characteristics in specific occupations but have been handicapped by the lack of objective tools to aid them in counseling.

In the past a considerable amount of research has been done regarding personality characteristics of different groups of sighted people but an apparent dearth of research in this area as it relates to the blind seemed to exist.

Dabelstein says

Although vocational rehabilitation has a history of 30 years during which much has been learned, the experience has demonstrated that we must develop much more knowledge in order to prevent, reduce, and eliminate the psychological effects of disablement. Only through well-designed and continuously supported

research will any substantial gain be made in increasing our understanding of the problems of the disabled and of the methods and techniques of rehabilitation.²

It has been important in rehabilitation and education to determine whether the blind, as a group, deviate from the normal in any particular way. It has likewise been important in vocational rehabilitation to see how the blind differ.

Statement of the Problem

The primary concern of the study was to determine the counseling implications of the Minnesota Multiphasic Personality Inventory* for use with the blind in selected occupations. It was felt that in order to provide adequate information and counseling services for the blind, rehabilitation counselors should have as many objective devices as feasible to reenforce their subjective observations. A corollary phase of the study was to determine whether the blind employed in various occupations showed significantly different personality patterns.

²National Psychological Research Council for the Blind, Research Suggestions on Psychological Problems Associated with Blindness, p. iii.

*Henceforth the Minnesota Multiphasic Personality Inventory will be referred to as MMPI.

Significance of the Problem

Everyone desires to maintain his self-respect but this seems to be a problem to the newly blinded person since he becomes quite concerned about his ability to maintain economic independence.

Meyer³ said that if the blind person were well and competent he should have a job that could be justified for economic reasons and be in competition with sighted labor. The importance of being financially independent was further emphasized by Routh. He says

Many blind people develop personality traits and inaccurate mental attitudes and adopt many verbalisms and blindisms as a result of their basic inability to answer the questions imposed by their financial uncertainty.⁴

Rehabilitation counselors are concerned with placing the blind in occupations in which they can compete successfully with sighted labor and which offers them a suitable economic return. The blind are greatly handicapped in that they are restricted not only to the number of jobs they can perform, but also in that they cannot shift from job to job as easily as sighted workers. Therefore, it would seem that the blind should be suited to their occupations. They are

³Meyer, G. F., "An Agency Looks at Needs of the Blind," Outlook for the Blind 35:5, February, 1941.

⁴Routh, T. A., "Economic Rehabilitation for the Blind," Outlook for the Blind 45:43, February, 1951.

not very likely, through their own merits, to secure a job where they can be useful and happy. In most instances, they will seek aid through a rehabilitation office.

As early as 1923, Hayes⁵ recognized the importance of studying all the qualities of a blind person so that he may be placed successfully in a position compatible with his interests and abilities. Hayes also says

The normality of the blind person should be stressed. The temperament of the individual shows whether he is mental or manual, directive or dependent, original or imitative, social or self-centered, an indoor or an outdoor type, a man of large or small scope, settled or roving, accurate or inaccurate, rapid or slow to coordinate facts, dynamic or static. Occupation for the blind in competitive industry is practically a new venture and we cannot yet tell whether it may lead along economic lines.⁶

The need for objective test data in the counseling process was expressed by Peckham⁷ when he stated: "The use of a test like the use of an interview is merely one more factor in narrowing the odds of chance; your guess."

Much of what has been written reflects the importance of correctly placing the blind individual. At the present time there are tests of mental ability, vocational interests,

⁵Hayes, C. B., "Getting a Job for the Blind," Outlook for the Blind 36:23, September, 1923.

⁶Ibid., p. 22.

⁷Peckham, R. A., "The Need for Objective Data in the Counseling Process," Journal of Rehabilitation 14:27, August, 1948.

aptitudes, and dexterity used with the blind in vocational rehabilitation. However, vocational counselors working with the blind are handicapped in that little information has been available to them regarding the use of personality tests in vocational counseling. It would seem that counselors would be helped greatly if they knew the personality characteristics needed by successful workers in particular occupations. This investigation was an attempt to determine whether the blind working in selected occupations exhibit personality patterns which were significantly different. It was hoped that the results of this study would permit greater ease and accuracy in vocational counseling so that the blind would be placed in occupations best suited to their particular personality manifestations.

Selection of the Measuring Instrument

The instrument used in this study was the MMPI. It was selected because it is a psychometric instrument designed to provide scores on the more important phases of personality difficulty. It provides measures on nine traits important in personality adjustment. The MMPI also has four validity scales the purpose of which is to indicate the probable validity of the results of the nine clinical scales. Ellis⁸

⁸Ellis, Albert, "The Validity of Personality Questionnaires," Psychological Bulletin 43:385-440, September, 1946.

surveyed the literature on the validity of personality questionnaires. He stated that among the newer personality questionnaires the MMPI appeared to be the most promising.

Cross⁹ had the MMPI printed in braille to determine its application to the blind. He concluded that it could be used with apparent success.

Potter¹⁰ described a method of adapting the MMPI for the blind by using wire recording equipment.

There are two forms of the MMPI: the Individual (Card) Form and the Group (Booklet) Form. The original form, which is referred to as the Individual (Card) Form, consists of 550 statements, each printed on a separate card. These statements are positively worded, expressed in simple language, and cover a wide range of subject matter that includes the physical condition, the morale, and the social attitudes of the client being tested. Each client is asked to sort the cards into the following three categories indicated by the index cards: True, False, and Cannot Say. Each client takes one card at a time, reads the statement, and places each card behind the index card that most nearly represents his feeling toward the statement. The numbers of the cards having

⁹Cross, O. H., Braille Edition of the Minnesota Multiphasic Personality Inventory, 134 pp.

¹⁰Potter, C. S., "A Method for Using the Minnesota Multiphasic Personality Inventory with the Blind," in Psychological Diagnosis and Counseling of the Adult Blind, pp. 130-130.

significant responses are entered on a record sheet. The psychometrist then applies the proper scoring key template to the various scales. The Group (Booklet) Form was designed to meet the demands for a form that could be administered to large groups. The Group Form consists of 566 items, to provide a more economical method of scoring on the IBM machines, the items included in the Individual Form plus 16 duplications of items.

The MMPI is scored by translating the raw score of the measured trait into a standard score (T-score). The average standard score is 50 and every 10 points above or below represents one standard deviation. The results are plotted on a profile chart to permit an analysis of the relative strengths of the various scales. It is felt that the pattern of scores is more important than the presence of any one scale to an abnormal degree. Standard scores above 70 are considered to indicate abnormal behavior.

Purposes of the Study

The purpose of this study was to determine the counseling implications of the MMPI for blind people employed in selected occupations. The following additional problems were associated with the major purpose of the study: (1) to determine the personality patterns of blind people in the specific occupations in which they were employed as evidenced

by the MMPI; (2) to determine significant personality differences, if any, between groups working in specific occupations; and (3) to provide to vocational counselors of the blind information on the personality characteristics of the blind employed in specific occupations so the counselors may more efficiently place their clients in suitable occupations.

It was hoped that this study would contribute to the success of vocational rehabilitation techniques designed to place the blind in business and industrial positions.

Definition of Terms

A definition of terms was necessary to provide a common basis for communication. Terms peculiar to this study include:

Blind. Having a total lack of vision, or having vision insufficient for the ordinary activities of life, commonly defined in ophthalmological terms as follows: having central visual acuity of 20/200 or less in the better eye, with correcting glasses; or having a field defect in which the peripheral field has contracted to such an extent that the widest diameter of the visual field subtends an angular distance no greater than 20 degrees.¹¹

Employable blind. A person whose blindness has been

¹¹Potts, P. C., and Lowenfeld, Berthold, "Glossary of Terms Relating to Blindness," Outlook for the Blind 37:197, September, 1943.

determined to be a vocational handicap but such handicap becomes non-existent after specialized assistance in selected employment.

Sheltered workshop. A non-profit workshop conducted for the purpose of providing remunerative employment or rehabilitating activity for handicapped workers.¹²

Vocational rehabilitation. (An inclusive term) The process of which, in general, includes such services as medical and vocational diagnosis, vocational counseling, physical restoration, vocational training, funds for maintenance during training, placement in employment, and follow-up on employment until the individual has adapted himself to his handicap.

Basic Assumptions of the Study

Certain assumptions are necessary in undertaking this study. First it was assumed that the MMPI is a reliable instrument and that the method of administration did not change its reliability. Secondly, it is assumed that the subjects' responses are representative of their behavior, even though much of the testing was done in the evening. Thirdly, it is assumed that the subjects tested are representative of blind people employed in the same occupations throughout the United States. Lastly, it is assumed that a blind person successfully employed in an occupation for three years or more had

¹²Ibid., p. 200.

a personality pattern peculiar to that particular occupation.

Limitations of the Study

The present study of the personality characteristics of blind workers in specific occupations is limited to the blind in Indiana. The number of occupations considered in this study was limited since there were relatively few occupations in which a sufficient number of blind were employed so as to make a valid study of them. The number of subjects in each of the occupational groups was not large because a relatively small number worked in the Indianapolis area although a few subjects were employed elsewhere. In some instances, an uncooperative attitude on the part of a few blind individuals limited the size of the sample.

Need for the Study and Its Values

Today a greater number of jobs can be performed by the blind than at any time previously. Formerly, in the small shop, a worker had to perform many operations and move about considerably. With the advent of industry and its production line method, workers perform a limited number of operations--usually one, and as a result their operations are confined to one area. The blind, in the former situation, were handicapped because they were not able to move around a great deal in the shops, while now they can perform an operation and

remain at their own station.

With an increase in job opportunities for the blind, the rehabilitation counselors need more objective aids to help them place their clients more efficiently and effectively. This investigation was an attempt to point out personality characteristics needed in selected occupations so as to help counselors of the blind more effectively advise their clients regarding specific occupations in which they are likely to achieve optimal success. Counselors have recognized for some time certain personality characteristics associated with successful performance by the blind in selected occupations. It is hoped that the results of this study would serve as a basis for further experimentation and guidance.

Summary

Background information on the prevalence of blindness in the United States as well as on the vocational rehabilitation services for the blind was presented in the introduction. The importance of correctly placing the blind in suitable occupations was stressed as well as the purpose and limitations of the study and the needs for such an investigation.

Only through an intelligent, effective, and efficient vocational rehabilitation program will the visually handicapped be placed in remunerative employment sufficient for their livelihood and thereby maintain their dignity and independence.

CHAPTER II

REVIEW OF RELATED LITERATURE

The major portion of the literature which was reviewed for this study concerned the use of the MMPI with sighted people. An apparent dearth of research dealing specifically with the use of the MMPI in the vocational counseling of the blind was found to exist.

A majority of the studies reviewed related to the use of the MMPI in distinguishing the personality patterns of various groups. In some instances, a second instrument was used along with the MMPI.

The related literature which was reviewed may well be categorized as follows: (1) studies which showed that the MMPI gave valid results in distinguishing personality patterns of workers in certain occupations, (2) studies which showed that the MMPI gave no conclusive results in picking our personality patterns of persons in selected groups, (3) studies in which the MMPI was used to differentiate two or more selected groups according to the personality patterns of the people in each group, and (4) studies outside of the above categories but pertinent to this study.

Use of the MMPI in Distinguishing the Personality Patterns of Workers in Selected Occupations

The results of a study made at the Rehabilitation and Educational Division of the Minneapolis Office of the Veterans'

Administration was reported by Harmon and Wiener.¹ The vocational advisers obtained information from such sources as army and navy records, case histories, and interviews. In addition, the results of reliable, valid, and standardized tests were used. The MMPI was included in the test battery as a measure of personality. The authors stated that the MMPI was selected because it appeared well standardized in terms of various clinical categories that could be related to vocational fields. The study was not an experimental study but rather a summary of clinical experience.

High scores occurred more frequently on the Hypochondriasis, Depression, and Hysteria scales than on other scales of the MMPI. Harmon and Wiener felt that the high scores on these scales indicated limitations as to the type of work a man would perform. The dirty or heavy jobs were eliminated. The high scores also seemed to indicate that man would be best for jobs that did not require all of his abilities and where there was a minimum of stress. Such high pressure occupations as selling, investigational, or promotional work were eliminated.

Harmon and Wiener further concluded that high scores on the Paranoia and Schizophrenia scales of the MMPI indicated persons who could perform routine and well-regulated jobs

¹Harmon, L. R., and Wiener, D. N., "Use of the Minnesota Multiphasic Personality Inventory in Vocational Advisement," Journal of Applied Psychology 29:132-141, April, 1945.

rather than those requiring initiative, self-discipline, and social contact. An elevated scale for Psychopathic Deviate and Hypomania would tend to indicate a person who could adjust to jobs requiring initiative and aggressiveness.

As to the usefulness of the MMPI, Harmon and Wiener conclude

It has served to delineate personality characteristics of crucial importance in the actual choice of a vocation, and has yielded valuable information to aid in prognosis of success in training. In some instances it has revealed personality characteristics that had not previously been recognized, and in others offered quantitative confirmation of the clinical impressions of a case history and interview.²

It is the opinion of the authors that the MMPI can be justifiably used in a vocational guidance clinic.

A study by Verniaud³ was an attempt to determine occupational differences in the personality patterns of women employed in selected occupations. The individual form of the MMPI was administered to 97 women in three contrasting occupations. This number included 40 clerical workers, 27 department store saleswomen, and 30 optical workers. The mean T-score profile on the MMPI for each group was plotted.

A great similarity of profiles for the neurotic triad was noted. All cases fell somewhat below the norm mean line.

²Ibid., pp. 140-141.

³Verniaud, W. M., "Occupational Differences in the Minnesota Multiphasic Personality Inventory," Journal of Applied Psychology 30:604-613, December, 1946.

The author found a significantly low mean score (critical ratio = 5.28) on the Hypochondriasis scale for clerical workers. Verniaud indicated that clerical workers as a group would not be abnormally concerned about their bodily functions and closely represent a normal sampling.

A high Masculinity-femininity score achieved by department store saleswomen (critical ratio = 4.20) was thought to indicate masculinity. The optical workers showed definite trends toward hypomania (critical ratio = 3.64), and psychopathic deviate (critical ratio = 3.29). Verniaud felt that the latter group would exhibit such characteristics as restlessness, a variety of previously made plans, enthusiasm alternating with depression, inclinations toward anxiety and compulsive behavior, an inability to concentrate on a task for a long period, a tendency to disregard social mores, and an oversensitiveness or a suspiciousness of others.

Verniaud points out that when material other than test scores was assembled "the available clinical evidence was as clear as the statistical in pointing to relationship between type of work, type of worker, and characteristic responses on the MMPI."⁴ She concludes that there were group differences in the personality of successful workers in positions of occupational preference that corresponded to gross differences in the job requirements. She felt that some of these

⁴Ibid., p. 610.

differences could be identified by responses made on the MMPI.

In 1949 Daniels and Hunter⁵ reported the results of an investigation in which they attempted to determine whether a particular optimal pattern of personality factors for each occupation contributes to occupational success and satisfaction. They attempted to determine whether a standardized personality test was subtle enough to ferret out personality patterns of value in research studies and of practical application in job counseling.

Their subjects were veterans who over a period of 32 months had come to the Veterans Administration offices in four Arizona centers for advisement and guidance. The MMPI was one of the instruments used at the centers for counseling the veterans. The F-test was used to find the significance of the scores on the MMPI scales. The scores for the Masculinity-femininity (Mf), Psychopathic deviate (Pd), and Hypomania (Ma) scales were significant at the 1 per cent level and the score for the Schizophrenia (Sc) scale was significant at the 5 per cent level. Only the results of these four scales were presented in their article. The authors were of the opinion that T-scores in excess of 70 on each of the scales were not prerequisites before the scales had definite meaning and application in the industrial field. It was their belief

⁵Daniels, E. E., and Hunter, W. A., "MMPI Personality Patterns for Various Occupations," Journal of Applied Psychology 33:559-565, December, 1949.

that scores deviating in either direction from the mean indicate a tendency toward behavior in that direction.

The Mf pattern on the MMPI seemed to indicate a "work need" that may require rechanneling before the occupational satisfaction of the basic Masculine-feminine content of the total personality could be achieved. The social scientist with a high Mf score and the farmer with a score slightly below normal was interpreted as one example of the above comment. The same high score was found for the physician, while the draftsman had a lower score. The high Mf score of the physician and social scientist was construed to be an indication of their need to understand humans and their problems. The study seemed to indicate that the professions of cultural nature required as a basic "work need" a high Mf pattern on the MMPI.

The psychopathic deviate pattern was characterized by aggressiveness or by asocial behavior. The "work needs" of an individual with a high Pd score was thought to be satisfied by such duties as that of an author, an editor, a reporter, or an athletic coach.

The schizophrenic pattern appeared to indicate a "work need" in which the person does not have to be closely associated with people. Isolation, therefore, seemed to be identified in schizophrenia. Persons having a high Sc score would likely choose such occupations as that of draftsmen or accountants in which they work more or less by themselves.

Individuals having a high Ma score would adjust to occupations that would provide an outlet for enthusiasm and much physical activity. Persons exhibiting this characteristic may wisely choose such occupations as that of a teacher, a radio announcer, or a lawyer.

The authors state that there appears to be a significant "dynamic relationship between the 'work needs' of the total personality and the selection of occupation."⁶ In conclusion, the investigators believed the MMPI was "a fairly sensitive instrument for measuring the total personality 'work needs' in relation to the suitability of occupations having certain personality demands."⁷

In 1948 Chyatte⁸ conducted a study using various scales of the MMPI significance of mean differences of the scales between a group of actors and a group of non-actors. His subjects included 50 actors who were actively engaged in professional work and 50 males who were not actors. Each of the groups was administered the Otis Self-Administering Test of Mental Ability and the booklet form of the MMPI. Also, each actor filled out a biographical information blank. With only one exception, the actor group was equated with the non-actor controls on age and Otis I.Q. The actor and control subject

⁶Ibid., p. 564.

⁷Ibid., p. 565.

⁸Chayatte, Conrad, "Personality Traits of Professional Actors," Occupations 27:245-250, January, 1949.

of each pair had to be within three years of age and within five points in I.Q.

Chyatte used the t-ratio to test the statistical significance of the mean differences. The mean scores achieved on the Psychopathic deviate, Paranoia, Masculinity-femininity, Schizophrenia, and Hypomania scales of the MMPI by the actor group were significantly higher than the corresponding mean scores achieved by the control group. The mean score achieved by the actor group on the Hypochondriasis (Hs) scale of the MMPI was significantly lower than the corresponding mean scores achieved by the control group. All mean score differences were significant at the 1 per cent level, except for the Sc and Hs scales. They were significant at the 5 per cent level of confidence.

From the above results, Chyatte reasoned that actors were less concerned about their bodily functions than were non-actors. They had less regard for social mores, were more feminine in their interest patterns and were more sensitive or suspicious than were the non-actors. They tend not to be in harmony with reality and show a tendency toward overproductivity in thought and action.

Chayatte concludes "there appears to be some justification in so far as the experimental populations described in this study are representative, for ascribing unusual personality patterns to professional artists."⁹

⁹Ibid., p. 250.

Lewis¹⁰ studied relationship between measured occupational interests and personality tendencies. His subjects consisted of a group of 50 male insurance agents and a group of 50 female social workers. Both groups had taken the MMPI and the Kuder Preference Record. Lewis found that the life insurance salesmen's scores were elevated on the D, Hy, Pd, Mf, Pa, and Ma scales and were significant at the 2 per cent level. The social workers' scores on the Mf, Hs, Pt, and Sc scales were below the "normal". He saw evidences that they may be psychologically sophisticated. The 11 life insurance salesmen who scored lowest on the Kuder Persuasive Scale had higher scores on the MMPI except, for the Ma scale, than did 11 life insurance men who scored highest on the same Kuder scale. When a like comparison was made of the scores achieved by the social workers on the Kuder Social Service Scale and their MMPI scores, it was noted that here again those scoring lowest on the Kuder scale tended toward abnormality on the MMPI, except on the Mf scale.

Lewis concluded that there was a relationship between the MMPI scores and the Kuder Preference Record scores for the above occupational groups but that it was an inverse relationship.

¹⁰Lewis, J. A., "Kuder Preference and Minnesota Multiphasic Personality Inventory Scores for Two Occupational Groups," Journal of Consulting Psychology 11:194-201, July, 1947.

Inconclusive Results on the Use of the MMPI
in Differentiating Personality Patterns
of Individuals in Selected Groups

Lough¹¹ reported on a second study in which she used the MMPI in an attempt to determine whether the instrument differentiated four groups of students in various curricula. In addition, she evaluated the usefulness of the MMPI in counseling college women regarding their vocational and educational choices. Her subjects were 61 cadet nurses, 54 liberal art students, 91 students enrolled in the Music Curriculum, and 94 students enrolled in the General Curriculum. All her subjects were women.

Though there were no statistically significant differences on the scales of the MMPI for the various groups, there were trends among them. The nurse cadets were more masculine in their interests while the liberal arts students achieved the lowest score on the Psychasthenia scale and the highest score on the Hypomania scale. For the latter group she concluded they would have fears or compulsions but they would be more self-confident and less apt to worry excessively. The General Curriculum group preparing to be teachers were low on the Hypochondriasis and Depression scales. She felt that this implied good morale, an optimistic outlook on life,

¹¹Lough, O. M., "Women Students in Liberal Arts, Nursing, and Teacher Training Curricula and The Minnesota Multiphasic Personality Inventory," Journal of Applied Psychology 31:437-445, August, 1947.

infrequent undue worries about health matters, and little attempt to gain sympathy by complaining of physical conditions. The Music Curriculum students showed elevations on the Hysteria, Paranoia, and Hypomania scales.

Lough considered the tendency toward Hypomania as probably characteristic of the late adolescent or young adult college woman. She concluded on the basis of this study that nurse cadets showed the most significant differences on the MMPI scales. They exhibited a tendency toward stability, unemotionality, and were less disturbed than any of the college groups studied. Apparently there were no significant differences on the separate scales between those preparing to teach in the elementary grades, those preparing to teach music in the public schools, those preparing to be nurses, and those enrolled in the traditional curricula of a liberal arts college. On the whole, Lough felt that the MMPI appeared to have little or no significance for educational or vocational guidance except when a student deviated markedly in the direction of abnormality. The MMPI did not seem to be useful in differentiating those who were more suited for one occupation than for another.

The MMPI was used by Weisgerber¹² to investigate its value in predicting the student nurse's success in practical

¹²Weisgerber, C. A., "The Predictive Value of the Minnesota Multiphasic Personality Inventory with Student Nurses," Journal of Social Psychology 33:3-11, February, 1951.

nursing. He administered the group form of the MMPI to 35 seniors and 37 juniors enrolled in the St. Francis School of Nursing, Evanston, Illinois. Each subject was also rated on 19 traits considered important for practical nursing by instructors and supervisors. The data seemed to indicate that no scale alone had an appreciable relationship to success in practical nursing. There were only slight relationships between the practical ratings of the supervisors and the MMPI scores.

Weisgerber¹³ concluded "the MMPI cannot safely be used for predictive purposes with a group like the one studied."

The MMPI was used by Wiener and Simon¹⁴ in an attempt to discover the personality characteristics of embalmers who began their vocational training after counseling. The control group was composed of 100 veterans who had vocational objectives other than embalming.

The difference in the means of the two groups for each scale was obtained. The mean score achieved by the embalmer group on the Hypochondriasis scale was significantly higher (2 to 3 per cent level) than the corresponding mean score achieved by the control group. Differences between the mean scores significant at the 5 to 6 per cent level were found

¹³Ibid., p. 11.

¹⁴Wiener, D. N., and Simon, Werner, "Personality Characteristics of Embalmer Trainees," Journal of Applied Psychology 34:391-393, December, 1950.

for the Depression and Masculinity-femininity scales. The embalmer group achieved a lower mean score on these scales. They also achieved a lower mean score on the Paranoia scale that was significant at the 2 to 3 per cent level of confidence and a higher mean score on the Hypomania scale that was significant at the 5 to 6 per cent level of confidence. The uniqueness of the embalmer trainees was shown by the high score on the Hypochondriasis scale. This was believed to indicate an overconcern for bodily health and by projection, that would lead possibly to an interest in the dead.

Thirteen vocational and personal counselors wrote their impressions of the personality characteristics of the 36 embalmer trainees. The most frequent impressions given were relatively shallow emotionality, aggressiveness, and feminine characteristics.

The investigators concluded by stating that their study substantiated neither the personality characteristics set down by the counselors nor evidences of compulsiveness or necrophilia.

Another study using the MMPI and an interest inventory was reported in 1950 by Fassett.¹⁵ Subjects included 50 veterans and 56 non-veterans, all freshmen who had come to the University of Wisconsin Student Counseling Center in 1946-48.

¹⁵Fassett, K. K., "Interest and Personality Measures of Veteran and Non-Veteran University Freshman Men," Educational and Psychological Measurement 10:338-341, Summer, 1950.

The Strong Vocational Interest Blank and the MMPI were administered to all subjects. Their results on the Strong Vocational Interest Blank indicated no significant differences in interests between the two groups though the veteran group appeared to be more mature in vocational interests. The MMPI results for each scale showed no significant differences between the two groups in central tendencies. Greater variability was noted on the Hs, Pt, Mf, and D scales.

Fassett concluded that the results achieved by her group could not be applied to all student groups without reservation as the study was limited to freshmen men.

**Favorable Results on the Use of the MMPI in
Distinguishing the Personality Patterns
of Two or More Selected Groups**

Bier¹⁶ used the MMPI to make a comparative study of a seminary group and four other groups consisting of law, dental, medical, and college students. There were 924 subjects in his investigation. He wished to determine whether the MMPI was applicable to a special group such as the seminarians. The seminary group was compared with vocational groups having similar professional interests.

An analysis of the scores achieved by all the groups in the investigation revealed that they tended to score higher

¹⁶Bier, W. C., A Comparative Study of a Seminary Group and Four Other Groups on the Minnesota Multiphasic Personality Inventory, 107 pp.

on the MMPI scales than did the population at large. In other words, the subjects showed evidence of less satisfactory adjustment than did the general population, as judged by these standards. The evidence seemed to confirm such deviant tendencies on the MMPI of such college educated populations as had been reported previously. The seminarians showed the same deviant tendencies as did the other groups in the study, but though in a more marked degree. The seminary group was the most deviant portion of an already deviant population.

The greatest inter-group differences for the seminary group were found on the Mf scale, where 10 our of 12 differences were significant at the 1 per cent level. Using the same criterion of significance the inter-group differences on the Ma and Sc scales were next in importance with Hs, D, and Pa scales following closely. For the last three scales, one third of the differences between the seminarians and the other four groups were significant at the 1 per cent level. The differences within groups, between the well-adjusted and poorly adjusted portions of each group, were much greater than the inter-group differences within the well-adjusted or poorly adjusted portions of the population.

In general adjustment, the seminary group differed most from the medical and dental groups. The difference from each group was about equal, as judged by the number of significant differences among the groups. The law group was believed to show general adjustment most similar to that shown

by the seminarians while the college group held something of a middle position in this respect. A division of the population into well-adjusted and poorly adjusted groups was also made. An analysis of these two groups revealed that the well-adjusted seminarian differed far more from the poorly adjusted seminarian than he did from the well-adjusted members of the four comparative groups. Bier believed that personality adjustment was something basic which tended largely to transcend the relatively superficial occupational and vocational lines though genuine inter-group differences were found to exist. It was concluded that the MMPI could be used as an instrument for testing psychological adjustment to seminary life. The MMPI accomplished substantially the same function for the seminary group as for the others.

An item analysis was made in order to put in more concrete and helpful terms the adjustment specific to the seminary group. The seminary group seemed to be set apart from the other group in differences in adjustment. There seemed to be items in the MMPI which presumably did not apply to a seminarian and his way of life, or else had a meaning for him almost completely different from that for members of the other groups. The suggestion was made that such items might be eliminated in adapting the test to seminary use. The retention of items not applicable to the seminarian's way of life was believed to contribute nothing toward the differentiation of the well-adjusted and poorly adjusted seminarians.

though they tended to create for the seminarian, by reason of their relative frequency, an atmosphere of remoteness and artificiality which might be harmful to the effective operation of such a test. The unsuitable items were not rejected by mere inspection of their verbal content, but criteria were drawn from the results of the investigation which would serve as guiding principles in modifying the content of the MMPI to adapt it for use with seminary groups.

Hawkes¹⁷ used the MMPI in an investigation designed to improve the efficiency of counseling in college. He attempted to determine the extent to which the MMPI scores of entering students would predict any maladjustment which may become evidenced in various aspects of college life. The experimental group consisted of 29 males and 8 females who deviated from the control group on the Hs, the D, and the Hy scales as much as two standard deviations above the mean. The experimental group was matched person to person with a normal group in age, sex, class rank in college, and equivalent scores on the USAFI tests of Effective Usage of English and Readings in Natural Science. Each subject took the Kuder, was interviewed, and was rated on the Haggerty-Olson-Wickman Behavior Scale.

The extent to which the control group selected objectives more in keeping with their interests was significant

¹⁷Hawkes, G. R., "Use of the Minnesota Multiphasic Personality Inventory in Screening College Students for College Purposes," The Journal of Educational Psychology 41:116-121, February, 1950.

at the 1 per cent level. The extent to which the control group participated more socially was significant at the 5 per cent level.

Hawkes came to the conclusion that the MMPI had value as a screening device for college counseling. He also cautions that his results indicate that some students in need of counseling may not be identified and that some so identified may not need such help.

Lough¹⁸ reported the results in her investigation in which she proposed: (1) to determine if there were any significant differences on the various scales of the MMPI between students enrolled in the General Curriculum and those enrolled in the Music Curriculum; (2) to determine whether the MMPI might be useful in selecting students for admission to the teaching profession; and (3) to determine whether the MMPI would indicate students who evidence the types of maladjustment previously attributed to school teachers.

Lough's subjects were 185 women students at a New York state teachers college who took the MMPI in one of their courses. Of this number, 91 were enrolled in the Music Curriculum. Men students were not included as their total number was too small to be significant.

The profiles of the two groups approached a fairly

¹⁸Lough, O. M., "Teachers College Students and The Minnesota Multiphasic Personality Inventory," Journal of Applied Psychology 30:241-247, June, 1946.

straight line at the T-score level of 50. Although the two groups tended to have similar profiles, some differences were evident. The music students were lower on the Pt scale than the general students. The latter group was lower on the Hs scale but higher on the Ma scale. Both groups tended to deviate in the same direction. The lowest point on the profile of the general students was the Pt scale and the highest was the Ma scale. The differences between the groups were not great enough to be statistically significant.

It appeared that the students who took the MMPI were, on the whole, normal and stable. The tendency toward hypomania exhibited by these groups was in accordance with several studies which also showed teachers to be high in hypomania. It was thought that this might show some relationship to the second most common diagnosis of maladjusted teachers in mental hospitals--manic depressive psychosis. Lough found that certain scales of the MMPI might be useful as one of the instruments in the selection of students for admission to the teaching profession.

Further experimentation with the MMPI was done by Norman and Redlo¹⁹ to determine whether students in various major academic fields had certain personality characteristics peculiar to their major interests. Their subjects consisted

¹⁹Norman, R. D., and Redlo, Miriam, "MMPI Personality Patterns for Various College Major Groups," Journal of Applied Psychology 36:404-409, December, 1952.

of 149 male seniors and graduate students at The University of New Mexico grouped as follows: psychology-sociology, mathematics-chemistry-physics, engineering, anthropology, business administration, art-music, and geology. All subjects took the MMPI and filled out a questionnaire in which they indicated the extent to which they were satisfied with their major field. They indicated which major they would reselect if they had a choice.

Norman and Redlo found that the students in the strongly satisfied group exhibited greater femininity than students in less satisfied group. Their results were significant at the 2 per cent level. The extent to which the former group was less psychasthenic than the less satisfied group was statistically significant at the 5 per cent level.

Norman and Redlo found indications of personality characteristics peculiar to the various academic groups. The psychology-sociology group had fairly strong Pd and Ma tendencies, while rather high D and very low Sc scores were characteristic of the mathematics-chemistry-physics group. The mathematics-chemistry-physics group tended away from Pd and Ma tendencies. It was thought that low Pd, Ma, and Sc tendencies made for success in those sciences in which symbols, ideas, and abstractions were used with a minimum of direct control with people. Depression scores were believed to be high because of the exactness of the work. The engineering students had tendencies similar to the above group, except

that their Sc score was a little higher and they showed more masculine interests. The anthropology group exhibited no strong patterns but a rather high Mf score. Majors in business administration had a low D score, a Ma tendency, and a low Mf score that could lead to social aggression. Norman and Redlo believed that the aggressive tendencies evidenced in a low Mf score was necessary in business.

The art-music group exhibited a very strong feminine sensitivity (high Mf) as well as high Hy, Sc, Pd, Ma tendencies and somewhat mediocre Pa tendencies. As a group, the students seemed somewhat maladjusted but the complex pattern of the group made it difficult to identify specific personality demands common to it other than a high femininity score. The investigators concluded that the MMPI was valid for distinguishing personality trends among the various major groupings of college students.

A study of the personality traits as measured by the MMPI of college students and state prison inmates was reported by Fry.²⁰ His respondents were 121 male and 115 female college students, as well as 98 male and 109 female prisoners in two penal institutions of Pennsylvania.

All of the findings are not reported here. His results showed that the T-scores of the college students was

²⁰Fry, F. D., "A Study of the Personality Traits of College Students, and of State Prison Inmates as Measured by The Minnesota Multiphasic Personality Inventory," The Journal of Psychology 28:439-449, July, 1949.

from one-half to one standard deviation above the normal group mean. The white male prisoners were more variable in all of the scales than were the negro male prisoners. With the exception of the Pd scale the male prisoners were more variable than the male college students. The female prisoners were more variable than the female college students in all categories other than Depression, Psychopathic deviate, and Psychasthenia. The female prisoners were more variable than were the male prisoners on all scales other than Depression, Psychasthenia, and Schizophrenia.

The male college group exceeded the female college group with differences significant at the 5 per cent level on the Hypochondriasis, Psychasthenia, and Masculinity-femininity Scales. Male World War II veterans tended to exceed the non-veterans on the Hypochondriasis Scale with the difference being significant at the 2 per cent level of confidence. More than 50 per cent of each of the prison groups exceeded the normal range in Psychopathic deviate tendencies.

In 1951, Martin Spiaggia²¹ reported the findings of a study in which he used the MPI to investigate differences in personality traits between art students and non-art students. He matched 50 male art students with 50 non-art students on the basis of age and intelligence.

²¹Spiaggia, Martin, "An Investigation of the Personality Traits of Art Students," Educational and Psychological Measurement 10:285-293, Summer, 1950.

His results showed significantly higher mean scores on the D, Pd, Mf, Pa, Pt, Sc, and Ma Scales for the art students. Spiaggia generalizes from these results by saying that the art student is typically introverted, tends toward depression, tends to disregard social mores or is unable to adjust to the outer world, and exhibits femininity. The art student's high Ma score was believed to be the result of overproductivity of thought as well as action. Spiaggia urges caution when interpreting the results of his study since the sample cannot be taken as representative of art students throughout the country. Furthermore some overlapping of the MMPI scales existed.

Williamson and Hoyt²² used the MMPI to measure the personality characteristics of college student leaders engaged in such activities as fraternity or sorority responsibilities, religious activities, governing boards, political activities, and publications. They reported marked differences on the Pd, Pa, and Ma scales for men student leaders in political activities while women leaders differed on the Pd and Pa scales. These differences were in the direction of abnormality. The leaders in the radical or liberal political groups appeared to be more neurotic and unstable than other student leaders. Fraternity and sorority leaders tended to

²²Williamson, E. G., and Hoyt, Donald, "Measured Personality Characteristics of Student Leaders," Educational and Psychological Measurement 12:65-78, Spring 1952.

be characteristic of well adjusted and typical students.

Feather²³ presented additional evidence that showed a positive relationship between personality adjustment and occupational interests. Of the 503 cases studied, 80 per cent were men. All had previously taken the MMPI and the Kuder Preference Record. He divided his subjects into "normal" and "maladjusted" groups, using T-scores of 70 or above as cutoffs for the maladjusted group. A comparison of the results achieved by two groups showed that the normal group scored high on the Mechanical and Scientific scales of the Kuder Interest Preference Record while the maladjusted group scored high on the Musical, Literary, and Artistic scales of the same test.

Feather stated that his findings "should aid the counselor to develop a clinical feeling toward the probability that the maladjusted individuals may enter or apply for admission to certain fields of study."²⁴

Blum²⁵ used the MMPI and the Strong Vocational Interest Blank to make a comparison of the personal characteristics

²³Feather, Don B., "The Relation of Personality Mal-adjustments of 503 University of Michigan Students to Their Occupational Interests," The Journal of Social Psychology 32:71-78, August, 1950.

²⁴Ibid., p. 76.

²⁵Blum, L. P., "A Comparative Study of Students Preparing for Five Selected Professions Including Teaching," The Journal of Experimental Education 16:31-65, September, 1947.

and interests of college students in selected professional fields. He selected by random numbers 25 male students from each of the following schools at the University of Wisconsin: Education, Law, Journalism, Medical, and Engineering. Differences between the schools on the MMPI revealed that the Engineering group was high on the Hy, Mf, Pa, and D scales, while the Education students were high in Ma and Mf. The Journalism students were also high in Mf and somewhat so in Hy. The Medical group showed highest in schizophrenia tendencies while the Law group showed highest hysteria tendencies. Even with the above differences the investigator was of the opinion:

The fact that the differences in personality traits between education students and students in law, medicine, mechanical engineering, and journalism are so small as to be statistically insignificant refutes any implication that education students are inferior in personality traits to other groups.²⁶

A report on the similarities and differences evidenced on the various scales of the MMPI by college populations at the University of Minnesota was presented by Brown.²⁷ Another part of his study was to determine whether the normal freshman group that entered the University of Minnesota in the fall of 1945 could be considered a sample of the original

²⁶Ibid., p. 65.

²⁷Brown, H. S., "Similarities and Differences in College Populations on the Multiphasic," Journal of Applied Psychology 32:541-549, October, 1948.

group upon which the MMPI was standardized.

Brown selected the following six groups for comparison: an original "College Normal" group, an industrial group, a medical group, a group in elementary psychology, a Teachers College group, and a general college group. He used the MMPI scores from previous studies for the industrial, medical, psychology, and teacher candidate groups. He found that the scores made on all the scales of the MMPI by the male population of the general college group was higher than those made by the original college group. His results were statistically significant at the 1 per cent level. The same was true for the female college group, with the exception of the Hs and Sc Scales. Other comparisons included the psychology students. Their scores on the D, Pd, Pt, and Ma scales were significantly different from those of the original college population. The medical students differed significantly from the original college normals on the Hs, D, and Pd scales. It was also found that the industrial group differed from the original college group in depression, psychopathic deviate, paranoia, and hypomania.

Brown reported a similarity in the profiles of the college groups; but, at the same time, he saw significant differences among the various groups. He emphasized the need for caution in interpreting the MMPI as many factors affect the responses made by various subjects. Brown concluded that the personnel worker must possess a wealth of knowledge about

the subject with whom he is working.

Cottle and Lewis²⁸ reported differences in responses to the MMPI and to the Guilford-Zimmerman Temperament Survey made by counselors and a college student sample. They constructed a scale that differentiated between counselors and others workers in education and psychology. Their subjects included 65 counselors and 65 college students. A comparison of the counselors' scores on the Mf, Si, and F (Validity) scales with the general population norm for the MMPI indicated they tended to be more pessimistic, more interested in feminine types of activities, and more extroverted. When the scores of the two groups were compared, significant differences were noted on seven of the ten scales for the Guilford-Zimmerman Temperament Survey and on four of the 13 scales on the MMPI after the K correction was made. Sixty items on the Guilford-Zimmerman Temperament Survey and 51 items on the MMPI differentiated the two groups and these differences were significant at the 1 per cent level of confidence. After the K correction on the MMPI, counselors received a lower Lie and Ma score and a higher K score than did the college student sample. In addition, the counselors were more socially extroverted.

²⁸Cottle, W. C., and Lewis, W. W., Jr., "Personality Characteristics of Counselor: II. Responses to the MMPI and GZTS," Journal of Counseling Psychology 1:27-31, February, 1954.

Other Studies Pertinent to This Investigation

In 1945, Cross²⁹ reported the results of an investigation in which he transcribed the MMPI into braille to see if it could be used with the blind. He selected 50 blind subjects located near the University of Minnesota and were accessible for his purposes. Each sex was represented equally. The MMPI was printed in one-and-a-half braille, with each statement on a separate card. The subject was asked to read the statement on each card and to respond to it by placing the card in the appropriate box. On the table in front of the subject were three boxes identified as "True", "False", and "Cannot Say".

An item analysis of the 550 items showed that on only 20 items did the blind differ significantly from the norm group. On only five items did the blind of both sexes respond in the maladjusted direction so as to be statistically significant. With the exception of the Hypochondriasis, Paranoia, and Schizophrenia scales, the blind males had elevated profiles. The blind male was more depressed than the sighted male. His depressed nature was believed to be the result of having to provide for his family while handicapped by blindness. A check on the percentage of abnormal scores on each scale for the blind and norm group indicated that the blind

²⁹Cross, C. H., "Braille Edition of the Minnesota Multiphasic Personality Inventory for Use with the Blind," Journal of Applied Psychology 31:189-198, April, 1947.

were relatively normal. Cross concluded that the MMPI transcribed in braille probably could be used safely with the blind.

Brown³⁰ reported the results of an investigation he made to determine whether there was a significant difference in the way in which blind adolescents responded to items of an introversion-extroversion questionnaire. The Neymann-Kohlstedt Diagnostic Test for Introversion-Extroversion was administered to 218 students enrolled in schools for the blind and to 359 high school seniors. The results indicated a tendency for the blind females to be more introverted than the blind males with which they were compared. This was not true for the sighted subjects. When the blind and sighted males were compared, the blind appeared to be more extroverted. The tendency toward extroversion was not shown among the females.

Brown was of the opinion that the differences reported in his study were the results of blindness, sex, and institutionalization.

Brown³¹ reported the results of a second study in which he attempted to determine whether blind and seeing

³⁰ Brown, P. A., "Responses of Blind and Seeing Adolescents to an Introversion-Extroversion Questionnaire," The Journal of Psychology 6:137-147, April, 1938.

³¹ Brown, P. A., "Responses of Blind and Seeing Adolescents to a Neurotic Inventory," The Journal of Psychology 7:211-221, December, 1938.

adolescents showed significant differences on items of a neurotic inventory. He used the same group of students as reported in his previous study but for this study he administered the Clark Revision of the Thurstone Personality Schedule. An analysis of the data revealed that the blind as a group gave more atypical responses than the sighted group. The sighted males were better adjusted than the blind males. The same tendency as noted above was true for the two female groups. When the blind males and the blind females were compared, the males appeared to be better adjusted than the females. The differences between the sexes were greater for the blind group than for the sighted group.

Summary

A number of studies investigating the usefulness of the MMPI in differentiating the personality patterns of workers in selected occupations have been presented. The experimenters believed the MMPI was useful for differentiating the personality patterns of workers in selected occupations. The results of a few studies reviewed gave inconclusive evidence as to the value of the MMPI in distinguishing personality patterns of certain groups. Some of the investigators concluded that the groups had been selected so as to negate the possibility of valid results.

Many studies have been made in an attempt to determine

whether the MMPI could differentiate the personality patterns of selected college groups. The MMPI seemed to have value for this purpose.

All of the above studies included only sighted persons, as no comparable experiments using the MMPI with the blind seemed to exist.

A resume' of a few investigations that included testing of the personality of the blind was also presented. The results of these studies indicated a tendency for blind females to be more introverted than the blind males, while the blind male appeared more extroverted than the sighted male.

CHAPTER III

METHODS AND PROCEDURES

An attempt was made to determine the counseling implications of the MMPI when used with the blind in selected occupations. A further attempt was made to determine whether the blind employed in certain selected occupations exhibited specific personality patterns on the MMPI. The study was done in cooperation with the Board of Industrial Aid and Vocational Rehabilitation for the Blind located in Indianapolis, Indiana.

In 1953 the Board of Industrial Aid and Vocational Rehabilitation reported the results of eight years of Vocational Rehabilitation by its staff. The study included a list of all the occupations in which blind workers had been placed and the number placed in each occupation. Eight occupations were selected from this list for the following reasons: (1) a considerable number of blind workers had been placed in these occupations during the preceding eight years, and (2) subjects engaged in the selected occupational pursuits were available for testing purposes.

Nature and Source of Data

The following occupational pursuits were selected: assembler, salesman, packer, manager of small business or vending stand, transcribing typist, rehabilitation counselor, broomshop worker, and piano tuner. The subjects included

54 blind workers distributed in the selected occupations as follows: six assemblers, six salesmen, five packers, nine managers of small businesses or vending stands, six transcribing typists, six rehabilitation counselors, ten broomshop workers, and six piano tuners.

The criteria for selecting subjects were: (1) they had been employed in a particular occupation for three years or longer and (2) rehabilitation counselors considered them to be successfully employed. Since the broomshop workers were employed in a sheltered workshop situation in which many men were employed who could not be placed in occupations in competition with sighted labor, it was decided that three rehabilitation counselors would select ten broomshop workers who could be successfully employed in a broom factory in competition with sighted labor. The other occupations were not classified as being sheltered. Subjects other than broomshop workers were competing with sighted people or were in contact with the public in their work.

Description of the Sample

All the subjects were employed in Indiana with the majority of them working in Indianapolis or its suburbs. A few were employed in Terre Haute, and some of the subjects employed in Indianapolis commuted from Shelbyville. The latter group came to the office of the Board of Industrial Aid

and Vocational Rehabilitation for the Blind on Saturdays to take the MMPI as it was not feasible for them to take it after their work day. All the subjects were contacted by the rehabilitation counselors of the Board of Industrial Aid and Vocational Rehabilitation for the Blind and appropriate times were set for them to come to the office for testing purposes. All the testing was carried out in the office of the Board of Industrial Aid and Vocational Rehabilitation for the Blind. Nearly all the testing was done at night after the subjects had returned from work. The period of testing was from December 20, 1954, to January 31, 1955. Private transportation to and from the office was provided for those subjects who desired it though many of the subjects came on buses or were brought in automobiles by members of their family.

The subjects ranged in age from 21 to 63 years, with over 50 per cent being 39 years of age or less. Their span of education ranged from three to 17 years. Only 12 of the 54 subjects had an eighth grade education or less. Nearly three-fourths of the subjects were males and of this group approximately two-thirds were married. Approximately one-half of the female subjects were single and one-fifth were either divorced or were widows.

Procedure in the Administration of the MMPI

The Shortened Version of the MMPI consisting of the first 366 statements of the Group Form was used. Holzberg and Alessi¹ reported a favorable reliability for the Shortened Version of the MMPI. They concluded that, although there were some differences between the two forms, these differences were not clinically significant as judged by profile results.

Since many of the subjects were unable to read braille, the statements in the MMPI were recorded on plastic discs seven inches in diameter. Each disc had approximately a 15 minute playing time on the Edison Voicewriter. This machine was selected because it was simple to operate. Each subject was briefed on its operation and a try-out was conducted before he responded to the Inventory. In no case did the subject have difficulty in operating the machine after he had begun responding to the Inventory.

Through previous experimentation, it was ascertained that 12 seconds were adequate for the subject to hear each statement and respond to it. Fifty-two items were recorded on one side of each disc except for the last disc which had 54 statements. Only one side of each disc was used to permit ease of handling by the subjects.

¹Holzberg, J. D., and Alessi, Salvatore, "Reliability of the Shortened Minnesota Multiphasic Personality Inventory," Journal of Consulting Psychology 13:288-292, August, 1949.

The subject was seated at a table when he took the Inventory. Directly in front of him was a box that contained 366 three by five inch cards, each numbered to correspond to a statement in the Group Form of the MMPI. The cards corresponding with the statements recorded on each plastic disc were separated by a numbered piece of sandpaper that was slightly larger than the cards. The sandpaper aided the subject to keep each group of cards synchronized with the correct record. When the last statement on the record was given, the subject had sorted all the cards that came before the piece of sandpaper. Instructions for the placement of the sandpaper were given near the end of the disc. This was done to facilitate a quick check to see if the client had the location of the boxes in proper order. Each group of cards was a different color to permit ease of sorting and to check for errors quickly. For example, if a subject erred, only one disc had to be replayed and the cards for that disc were easily sorted from the remaining cards. Directions for changing the discs were given at the end of each disc.

The Edison Voicewriter was at the subject's left. The subject merely had to depress a switch with his finger to start and stop the machine. To the right of the box containing the cards arranged in proper order, were three empty boxes identified from left to right as the "True" box, the "False" box, and the "Cannot say" box. When the subject heard each statement, he responded to it by placing the

corresponding card in the appropriate box. He was able to call for assistance if he had trouble or had completed the Inventory by using the office intercommunication system. For more privacy, the subject used a headset instead of a speaker. Also, each subject was informed that he was alone in the room. This was considered necessary in order that he would not feel restricted in responding to the statements.

When the Inventory was completed, the cards from each of the three boxes were fastened together and an item analysis was made of the statements. Four items were found to be inappropriate for use with the blind. When the responses were recorded later on separate IBM answer sheets, the responses for these four statements were recorded as "Cannot say" but this did not affect any of the subjects' Question (?) scores (a validating scale). The IBM answer sheets were scored by the Indiana University Bureau of Measurement.

Personal Data Sheet

A personal data sheet was necessary to collect additional information about each subject. The data sheet was devised and after revision, it was mimeographed. Additional information was secured from the files in the Office of the Board of Industrial Aid and Vocational Rehabilitation for the Blind.

Much of the information contained in the records for

each subject was confidential, therefore, it was necessary that a staff member transfer the appropriate data from the subject's record to his personal data sheet. Additional information was obtained by interviewing the subject after he had completed the Inventory. This information included the various occupations engaged in since becoming blind, the reasons for quitting the previous occupations, his attitude toward his present job, and other occupational choices he would make if the occasion should arise. The information available from the record kept for each subject included his sex, age, education, and marital status. Other items of information secured included the cause of blindness, the age of onset, and the degree of blindness. Information on rehabilitation time and training time was also obtained as well as the length of time employed in the present occupation.

Tabulation of the Data

In using the Shortened Version of the EPPI, only 23 of the 30 statements necessary for computing the K factor were included. It was felt that the value of K was not destroyed with this proportion of statements for computing K. The raw K score was obtained by extrapolation. The conversion table in the Manual for the EPPI was used to change the raw scores on the profile sheet to T-scores. The next step was the grouping of the subjects according to occupation and

assigning a case number to facilitate their identification. No names were used. The T-scores on each scale for each subject were recorded on a master data sheet.

Treatment of the Data

Since the data in this study were not quantitative, it was decided that the most appropriate statistic to use was chi square (χ^2). By using this statistic no assumption had to be made regarding the normality of the groups studied. Chi square is useful in comparing the observed number or frequency (f_o) in a class with the expected or theoretical number or frequency (f_t) in a class according to the proportions indicated by the hypothesis that the total observed and theoretical frequencies are equal. To make this comparison, it was necessary to find the difference between the observed and theoretical frequencies and to determine the extent to which it varied from the theoretical frequencies.

The formula, $\chi^2 = \frac{(f_o - f_t)^2}{f_t}$, was used to compute χ^2 values.

This formula meant that a χ^2 value was equal to the square of the difference between the observed and theoretical frequencies divided by the theoretical frequency. The χ^2 values increased in size as the difference between the observed and theoretical frequencies became larger.

The mean T-score on each scale for each of the

occupational groups was computed and was used as the observed frequency (f_o). A mean T-score of 50, as given by the MMPI authors, was used as the theoretical frequency (f_t) in each case. The χ^2 value was calculated for each of the observed mean T-scores.

In order to determine differences between groups on each scale, the largest chi square values for each scale were added together using the formula $\chi^2 = \sum \frac{(f_o - f_t)^2}{f_t}$. The number of degrees of freedom was computed on the basis of $K-1$, where K refers to the number of classes--in this study, χ^2 values. The probability of significance of χ^2 was obtained from the chi square table in Walker and Lev.² The data used were tested at the 1 and 5 per cent level of significance. It was hypothesized that there were no differences among the blind groups working in the different occupations. The null hypothesis based on the assumption that there was no difference between the subjects studied and what was expected was used to test the adequacy of the hypothesis.

Summary

This study was undertaken in an attempt to determine the counseling implications of the MMPI for use with the

²Walker, H. M., and Lev, Joseph, Statistical Inference, p. 464.

blind in selected occupations. All available subjects in eight selected occupations were administered the MMPI. Since many of the subjects were unable to read braille, it was necessary to have the Inventory recorded on plastic discs to be used on the Edison Voicewriter. The subject listened to a statement and responded to it by placing a corresponding card in the appropriate box. The cards were bound together and later the responses were recorded on IBM answer sheets. These sheets were scored by the Indiana University Bureau of Measurement.

A personal data sheet was used to record additional information on each subject.

Chi square was used to test the data for significance.

CHAPTER IV

AN ANALYSIS OF DATA

To determine the counseling implications of the MMPI for blind workers in selected occupations, it was deemed necessary to discover whether blind subjects in specific occupational groups exhibited a personality pattern significantly different from that of blind subjects in other occupational groups. The Shortened Version of the MMPI was administered to all available and qualified individuals in each of eight selected occupations. Some of the 54 subjects were employed or resided in cities other than Indianapolis, Indiana. The Shortened Version of the MMPI was adapted for use with the blind by having the statements recorded on plastic discs to be used on the Edison Voicewriter.

The nine original scales developed for use with the MMPI are Hypochondriasis, Depression, Hysteria, Psychopathic deviate, Masculinity-femininity, Paranoia, Psychasthenia, Schizophrenia, and Hypomania. Several additional scales have been or are in the process of development. There are also validity scales. The Question Score (?) consists of the number of unanswered items. If this score is too large, that is, a T-score of 70 or more, the significance of the other scores are affected. Psychasthenic and retarded depression patients often exhibit high Question scores. The (L) or Lie Score measures the deliberate or unconscious

tendency of the client to choose responses that would place himself in a favorable social light. The F Score serves as a check on the validity of the whole inventory. A high F score received by a client indicates carelessness and lack of understanding of the statements, or that extensive errors were made in scoring and recording his responses. When the F score is low, the subject's responses can be considered rational and quite pertinent. The K Score is essentially a correction factor found to be of value in sharpening the discriminatory power of the clinical variables now measured by the MMPI. A high K score indicates that the subject is trying to make a more normal appearance in behavior. A low K score may indicate that the subject is too critical of himself or that he is deliberately attempting to make bad scores so as to create a bad impression.

The names of the clinical scales were derived from the extreme degree of the traits. The authors of the inventory assumed that each of these traits, if present in the proper degree, were a necessary part of a normal personality but a trait present to a marked degree is an indication of abnormal personality. For example, a normal person may be concerned about his bodily health but any excessive concern about his bodily health that would be detrimental possibly to normal behavior would demonstrate a personality disorder called hypochondriasis.

The nine clinical scales are described to show the

nature of personality disorders and to aid in interpreting the data.

Hypochondriasis. The Hypochondriasis Scale (Hs) is a measure of the amount of abnormal concern about one's bodily health. Individuals who manifest excessive worry over their health tend to exhibit high Hypochondriasis scores. Such persons frequently complain of pains and disorders which are difficult to identify and for which no clear organic basis can be found. The hypochondriac is characterized by his immaturity in dealing with adult problems and his failure to respond with adequate insight. Also, he is often vague in describing his complaints and frequently has a long history of exaggerating physical complaints and seeking sympathy.

McKinley and Hathaway¹ concluded that organic illnesses alter the personality pattern of normal individuals, in the direction of hypochondriasis only moderately.

The scale detects a difference between the organically sick person and the hypochondriac. In other words, an individual having a common organic sickness would not have an appreciably higher hypochondriasis score.

Depression. The Depression Scale (D) measures the depth of the clinically recognized symptom complex, depression.

¹ McKinley, J. C., and Hathaway, S. R., "A Multiphasic Personality Schedule (Minnesota): II. A Differential Study of Hypochondriasis," The Journal of Psychology 10:255-268, April, 1940.

Depressive disorders begin in tension and anxiety. The initial tension and anxiety develop to such exaggerated dimensions that delusions of unreality, nihilism, and environmental change dominate the clinical picture. Agitated depression results from unrelieved personal stress and strain. The subject develops such delusional themes as self-reproach, personal guilt and worthlessness, hopelessness for which he considers himself to blame, and the dread of deserved punishment. The depressed person tends to worry, is unable to sleep or relax, and exhibits a tendency to continually talk about his personal problems. He generally loses appetite and weight also.

Hathaway and McKinley² state that the measured depression might represent a less stable trait than most other personality characteristics. It is also recognized that some patients shift from a depressed condition toward normal within 24 hours. They found that the Depression Scale scores are significantly higher for females than for males, and they become higher with increasing age.

Hysteria. The Hysteria Scale (Hy) measures the degree to which the subject is like patients who have developed conversion type hysteria symptoms. Some of these symptoms may be general complaints about the systems of the body or they

²Hathaway, S. R., and McKinley, J. C., "A Personality Schedule (Minnesota): III. The Measurement of Symptomatic Depression," The Journal of Psychology 14:73-84, March, 1942.

may be specific complaints such as paralysis, intestinal complaints, or cardiac symptoms. Subjects with high Hysteria scores are especially liable to periodical attacks of weakness, fainting, or even epileptoid convulsions. While definite symptoms may never appear in a person having a high score, he is likely while under stress to become hysterical and solve the problems confronting him by the development of the above mentioned symptoms.

It appears that the hysterical cases are more immature psychologically than any other group. Though the symptoms can often be lessened by some conversion of faith or by appropriate therapy, there is always the possibility that the problem will arise again if the stress continues or recurs.

According to McKinley and Hathaway³ clinicians, who used both the Hypochondriasis and Hysteria scale were emphatic in that there was a valid clinical difference between two persons having high scores on the Hypochondriasis and Hysteria scales, but differing in that one score was higher. When Hypochondriasis is higher, the physical complaints are diffuse and require frequently much less study to determine the presence of an important psychological factor in the disability. If the person has a higher Hysteria, he often appears normal psychologically and his physical complaints

³McKinley, J. C., and Hathaway, S. R., "The Minnesota Multiphasic Personality Inventory V. Hysteria, Hypomania, and Psychopathic Deviate," The Journal of Applied Psychology 28:156-162, April, 1944.

resemble closely or accompany some common physical syndrome of the type which is now called psychosomatic. The Hysteria Scale as used at present is not in final form and needs more investigation; therefore, it should be used with caution.

The three scales, Hypochondriasis, Depression, and Hysteria are referred to as the "neurotic triad". They characterize the greater number of cases observed in clinical practice.

Psychopathic deviate. The Psychopathic deviate Scale (Pd) measures the similarity of the subject to a group of persons whose main difficulty lies in an absence of deep emotional response, an inability to profit from experience, and a disregard of social mores. These persons sometimes may be dangerous to themselves or to others but they are commonly likeable and intelligent. It is difficult to detect psychopathic deviates until they are in serious trouble. Between one outbreak and another, they may behave like perfectly normal people. They digress most frequently from the social mores by lying, stealing, alcohol or drug addiction, and sexual immorality. The psychopathic deviate may have short periods of true psychopathic excitement or depression following the discovery of a series of their asocial or anti-social deeds. They differ from some criminal types in that they do not profit from experience, and they appear to give little thought of possible personal gain or of avoiding detection.

The typical case has a shallow emotional life. Sexual and other appetitive drives are not deeply effective in the patient's life. According to McKinley and Hathaway,⁴ females more often exhibit masculine interests. They also state that the psychopathic deviate seems to seek dangerous and embarrassing experiences in their attempt to seek emotional experiences common to normal individuals. Sometimes they commit suicide. More often, they nearly do so. Their suicidal tendencies stem from shallow emotional sources rather than from deep depression or a normal recognition of failure. If a depressed state is present, it usually is expressed as fear of immediate punishment or the loss of liberty rather than feelings of guilt or apologetic feelings for what was done. This leads to a tendency to blame others or to excuse themselves for their predicament.

Psychopathic deviate Scale has been most valuable in clinical practice. The authors state that persons between 16 and 19 years of age who have a Psychopathic deviate score twenty T-score points above most other scores on the profile, will likely get into trouble unless they are kept under rigid discipline. Young people with a high Psychopathic deviate score should not be pushed toward the highest vocational or scholastic levels even if they have the ability.

This scale has been termed "psychopathic deviate" to

⁴Ibid., pp. 167-173.

indicate that it will not identify all cases of psychopathic personality.

Masculinity-femininity. The MMPI Masculinity-femininity Scale (Mf) measures an interest pattern that tends toward masculinity or femininity. Separate T-scores are set up for each of the sexes. A high score indicates an interest pattern of the opposite sex. Through clinical experience it has been demonstrated that males who score high may be either overt or repressed sexual inverters.

The Masculinity-femininity Scale represents a preliminary form and therefore should be interpreted with caution. The use of caution and additional evidence are necessary in interpreting high Masculinity-femininity scores since it can not be assumed that all males who have a high Masculinity-femininity score are homosexually abnormal. The authors⁵ of the inventory report that to be on the safe side high scores for females cannot be given similar clinical significance as the scores for the men. The interpretation of high scores for females must be limited to a measurement of the general trait.

Frequently the Masculinity-femininity score is important in vocational choice. The authors suggest, generally speaking, that it is important to match the individual with a type of work that is appropriate to his Masculinity-femininity

⁵Hathaway, S. R., and McKinley, J. C., Minnesota Multiphasic Personality Inventory Manual, p. 20.

level.

Paranoia. The Paranoia Scale (Pa) was derived by contrasting normal persons with a group of clinic patients who were characterized as being suspicious, oversensitive, and having delusions of persecution. The paranoiac may be characterized by the appearance of dominant notions and suspicions that may take the form of jealousy, interpretation, and persecution with a more or less definite need for vindication.

It has been observed that a very few paranoiac persons have successfully avoided betraying themselves when responding to the items of this scale. Also, individuals with an excess amount of paranoiac suspiciousness are common and in many situations they are not handicapped greatly. The borderline paranoiac, although he appears normal when he is on guard, may take action vengefully against persons who attempt to control him.

The clinician should be cautious in his interpretation of the Paranoia Scale.

Psychasthenia. The Psychasthenia Scale (Pt) measures the similarity of the subject to psychiatric patients who are troubled by phobias or compulsive behavior. Normal people have certain phobias such as fear of spiders, snakes, lightning, or wind storms but phobias if they become strong and numerous may cause a personality disorder. Individuals in the environment of a psychasthenic person may consider him hostile since they frequently doubt the meaning of his

reactions. In certain instances, the phobia becomes attached to certain acts or thoughts of the subject and he feels that he is compelled to perform those needless acts without regard to rational considerations. McKinley and Hathaway⁶ stated that the psychasthenic person feels he must do such acts as counting objects, touching certain spots on a wall, or avoiding stepping on cracks in a sidewalk. If he does not do these acts, he feels uncomfortable but if he does them, he has to justify his acts by rationalization. Obsessive thinking is accompanied by anxiety over his thoughts. He tends to feel that he is useless. Often a psychasthenic tendency is exhibited by a mild depression, excessive worry, lack of confidence, or inability to concentrate. The word psychasthenia is derived from the concept of a weakened will that cannot resist the behavior even though it be maladaptive. Counselors and personnel workers often encounter this type of behavior among normal subjects.

Schizophrenia. The Schizophrenia Scale (Sc) measures the similarity of the subject's responses to those patients who are characterized by bizarre and unusual thoughts. The schizophrenic's thinking is disorderly and may result from a breaking down of the normal association of ideas. He tends to be evasive in his answers to questions. Inconsistency

⁶ McKinley, J. C., and Hathaway, S. R., "A Multiphasic Personality Schedule (Minnesota): IV. Psychasthenia," The Journal of Applied Psychology 26:614-624, October, 1942.

between the thoughts expressed and the emotions which accompany them is an example of splitting the personality. As there is a splitting of the subjective life of the schizophrenic individual from reality, the observer cannot follow rationally the shifts in mood or behavior.

The authors⁷ conclude that the Schizophrenia Scale distinguishes about 60 per cent of the observed and diagnosed cases as schizophrenia though it fails to identify some paranoid types of behavior as well as some cases of pure schizophrenia. It has been found that individuals manifesting a type of schizophrenia usually score high on the Paranoia Scale. For normal cases, there is a correlation of .84 between schizophrenia and psychasthenia. The correlation drops to .75 for abnormal cases. The relatively high correlation seems to indicate that there is value in using both scales. However, an appreciable number of clinical cases scoring high on the Schizophrenia Scale are not diagnosed as such. These cases are nearly always characterized by complicated symptomatic patterns.

Hypomania. The Hypomania Scale (Ma) measures the personality factors characteristic of persons with marked overactivity in thought and action. Hypomania refers to the milder degrees of manic excitement occurring typically in the manic depressive psychoses. Some of the symptoms of

⁷Hathaway, S. R., and McKinley, J. C., op.cit., p.
20.

maniacal conditions include an elated but unstable mood, psychomotor excitement, and a flight of ideas. Manic patients are also characterized by egocentricity, a lack of appreciation of the unsuitableness of their own behavior, and a certain disregard for others. Hathaway and McKinley⁸ report that it is more difficult to diagnose cases of hypomania than others. Though the validity of the Hypomania Scale is not conclusive, individuals with hypomanic symptoms have a tendency to secure high scores. In a few cases, an individual's score indicates hypomania while clinical reports fail to verify this finding.

The hypomanic individual gets into trouble when he undertakes too many things. He may be somewhat depressed at times and, according to the authors, he may get into trouble with the law because he disregards social conventions. Frequently, patients are diagnosed as psychopathic deviates while it would be better if they were diagnosed as hypomanics.

Description of the Subjects

The number of males and females in each occupational group is presented in Table 1. The occupational groups were numbered for convenience as follows: Group 1 - Assembler, Group 2 - Salesman, Group 3 - Packer, Group 4 - Manager of

⁸McKinley, J. C., and Hathaway, S. R., op. cit., pp. 162-167.

Small Business, Group 5 - Transcribing Typist, Group 6 - Rehabilitation Counselor, Group 7 - Broomshop Worker, and Group 8 - Piano Tuner.

TABLE 1. NUMBER OF MALES AND FEMALES IN EACH OCCUPATIONAL GROUP

	Occupational groups								Total
	1	2	3	4	5	6	7	8	
Male	4	6	5	5	1	3	10	6	40
Female	2	0	0	4	5	3	0	0	14
Total	6	6	5	9	6	6	10	6	54

The males comprised 74 per cent of the total group. Women were employed in only one-half of the occupational groups. It was probable that women were not employed in Groups 7 and 8 because of the nature of the work. There may have been too few subjects to have females included in Group 3, since women are employed frequently as packers. The salesmen, Group 2, were usually employed as broom salesmen and generally had routes which they covered periodically. This type of work would not be particularly suitable for women.

Fifty-eight per cent of the subjects were married and 33 per cent were single, while the remaining nine per cent

were either divorced or their wives or husbands were deceased. The proportion of married to single males was approximately two to one while the proportion of married females was a one to one ratio. Each of the sexes included a divorced person. The male group included one widower while two widows were in the female group.

The degree of blindness exhibited by the subjects in each occupational group is shown in Table 2. The various degrees of blindness were grouped into broader and more inclusive classifications. These classifications were set up as follows: (1) total blindness, (2) light perception in both eyes, (3) 90 per cent loss in both eyes to light perception, (4) 80 per cent loss or more in one eye and total loss in other eye, and (5) from 80 to 89 per cent loss in both eyes.

It is noted in Table 2 that:

1. Thirteen, or approximately 25 per cent of the subjects, were totally blind. One female was included in this category.

2. The largest number of subjects, slightly over 35 per cent, were in the third classification.

3. A much higher percentage of males than females were included under the greater degrees of blindness.

Approximately 88 per cent of the males as compared to 50 per cent of the females were included in the first three classifications of degrees of blindness.

TABLE 2. DEGREE OF BLINDNESS MANIFESTED BY SUBJECTS IN EACH OCCUPATIONAL GROUP

Degree of blindness	Occupational Groups												Total by sexes			
	1		2		3		4		5		6		7		8	
	M*	F*	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Total blindness	3	3	1	1	1	1	1	1	1	1	3	3	12	1		
Light perception in both eyes			2		1				2		5		6	4		
90% loss in both eyes to light perception	1	3	1		3	1	1	1	1	4	3	17	2			
80% loss or more in one eye and total loss in other eye					1	1	2	2	2	1		2	5			
80 - 89% loss in both eyes					1				1	2	1	3	2			

*Male

*Female

The chronological age of the subjects was used to indicate onset of blindness. See Table 3. The onset of blindness varied from birth to 49 years of age. Approximately 50 per cent of all subjects were blind at birth while only one-third of them became blind after five years of age.

Twenty per cent of the subjects were blind as a result of cataracts, the greatest single cause of blindness. Nearly all of this group were listed as having congenital cataracts.

As a group, the subjects were in the upper educational levels. Approximately 60 per cent had 16 years or more of education. Only seven subjects had received less than an eighth grade education, and with one exception these individuals were approximately 40 years of age or older. The Transcribing Typist group had had the most education with the Rehabilitation Counselor group being next. Only a few subjects attended a public school on the elementary or high school level.

The rehabilitation period varied from no time for some individuals to eight years for one person but for the majority of cases it varied from 12 to 30 months.

The length of training time for the job also varied a considerable extent. Approximately 45 per cent of the subjects received no formal training while another 30 per cent had less than 12 months. The Transcribing Typist group received the greatest amount of training for the job.

TABLE 3. AGE OF ONSET OF BLINDNESS OF THE SUBJECTS

Age	Occupational groups												Total by sexes			
	1		2		3		4		5		6		7		8	
	M*	F†	M	F	M	F	M	F	M	F	M	F	M	F	M	F
At birth	1	1			2		4	1	1	2	1	3	4	6	19	7
Infancy to 4 years	2	4			1		1		1		1		1		10	
5 to 19 years	1	1			2				1	1	2				6	2
20 to 34 years								1		1					2	
35 to 49 years								2		1				5	3	

*Male

†Female

Description of the Profiles

It was not the purpose of this study to consider normal or abnormal personality manifested by individuals in the selected occupational groups but rather to determine whether blind subjects employed in selected occupations exhibit specific personality patterns. The mean T-score profiles for each occupational group are shown in Figures 1, 2, 3, 4, 5, 6, 7, and 8. An inspection reveals different profiles for each occupational group although some similarity was evident. A comparison of the profiles reveals that the curves were chiefly above the mean and above a T-score range of 46 to 54. The 46 to 54 T-score range will be referred to hereafter as the normal deviation range since scores within this range are considered normal. None of the scores were over two standard deviations above the mean. The authors of the MMPI state that individuals with a T-score above 70 on a particular scale show a very strong tendency toward abnormality. For this reason, the profiles for the selected groups only show tendencies in the direction of abnormality.

The mean T-score on the Masculinity-femininity Scale for the occupational groups that included both sexes have been calculated separately for each sex. This was necessary as a high T-score on this scale for each sex indicated an interest pattern of the opposite sex. The profiles on this scale were drawn for each sex when necessary to do so. The

profile for the Assembler group, Figure 1, reached the highest point on the Schizophrenia Scale. This scale seemed to be most significant for the Assembler group. The low point on the Masculinity-femininity Scale reached by females indicates a tendency toward femininity. The remainder of the profile was within or near the upper limit of the normal deviation range and cannot be considered to have clinical significance.

An inspection of Figure 2 reveals that the profile for Salesman on the Depression, Masculinity-femininity, Paranoia, and Hypomania Scales had high points approximately one standard deviation or more above the mean. The high depression score may indicate the depressive type of work that the majority of these subjects performed which was selling brooms. It was nearly a last recourse job and did not have too much future. The hypomanic person may also be somewhat depressed at times. The group showed a tendency toward femininity. The remaining scores are not clinically significant since they were either within or near the upper limit of the normal deviation range.

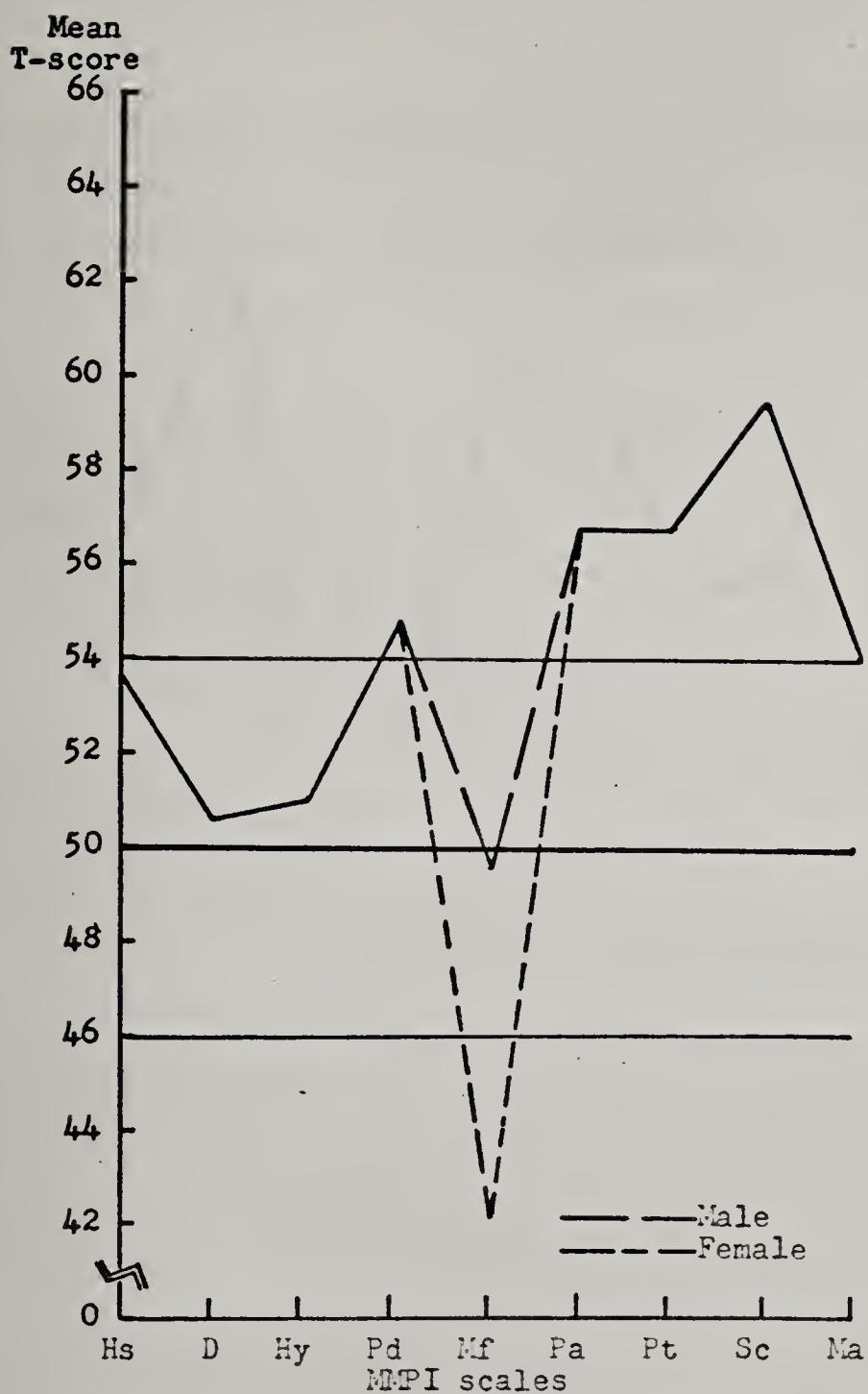


Figure 1. Mean T-score Profile on the MMPI for the Assembler Group

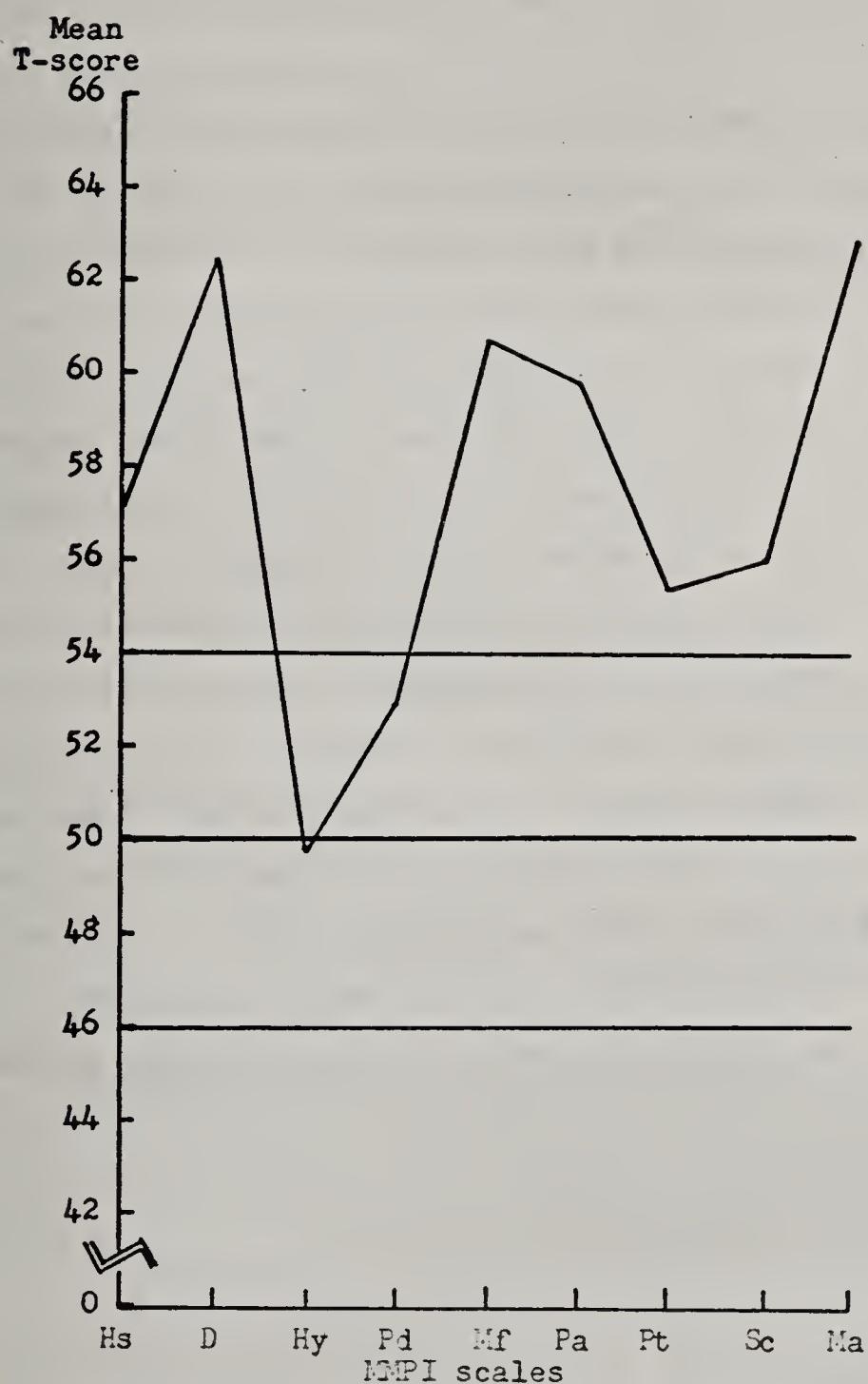


Figure 2. Mean T-score Profile on the MMPI
for the Salesmen Group

The profile of the Packer group, Figure 3, had high points on the Schizophrenia and Paranoia Scales. These scales are of greatest importance in expressing the psychotic profile. The highest point of the profile was on the Hypochondriasis Scale and can be interpreted as an overconcern for bodily health. The remainder of the scales represented on the profile are of no clinical importance since the scores on these scales were within or near the normal deviation range.

The profile of the Manager of Small Business group, Figure 4, had high points on the Psychopathic deviate, Masculinity-femininity, and Hypomania Scales. This is characteristic of a behavior problem profile. Both sexes deviated in their basic interest pattern in the direction of the opposite sex. There appeared to be a tendency toward a psychotic profile also, with the Schizophrenia and Paranoia Scales being of greatest significance along with the Hypomania and Depression Scales of lesser significance. The remainder of the scores are not clinically significant.

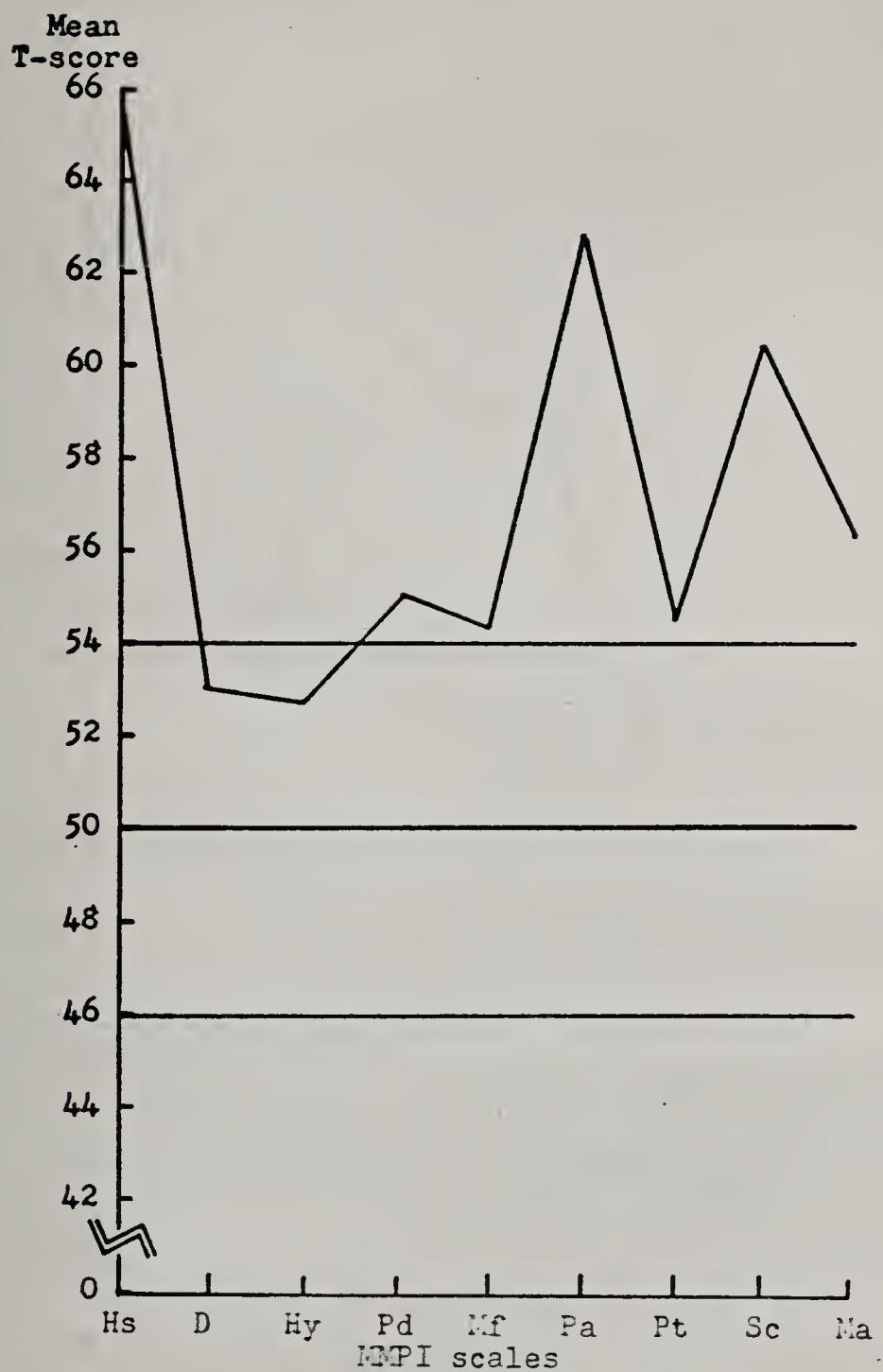


Figure 3. Mean T-score Profile on the MMPI for the Packer Group

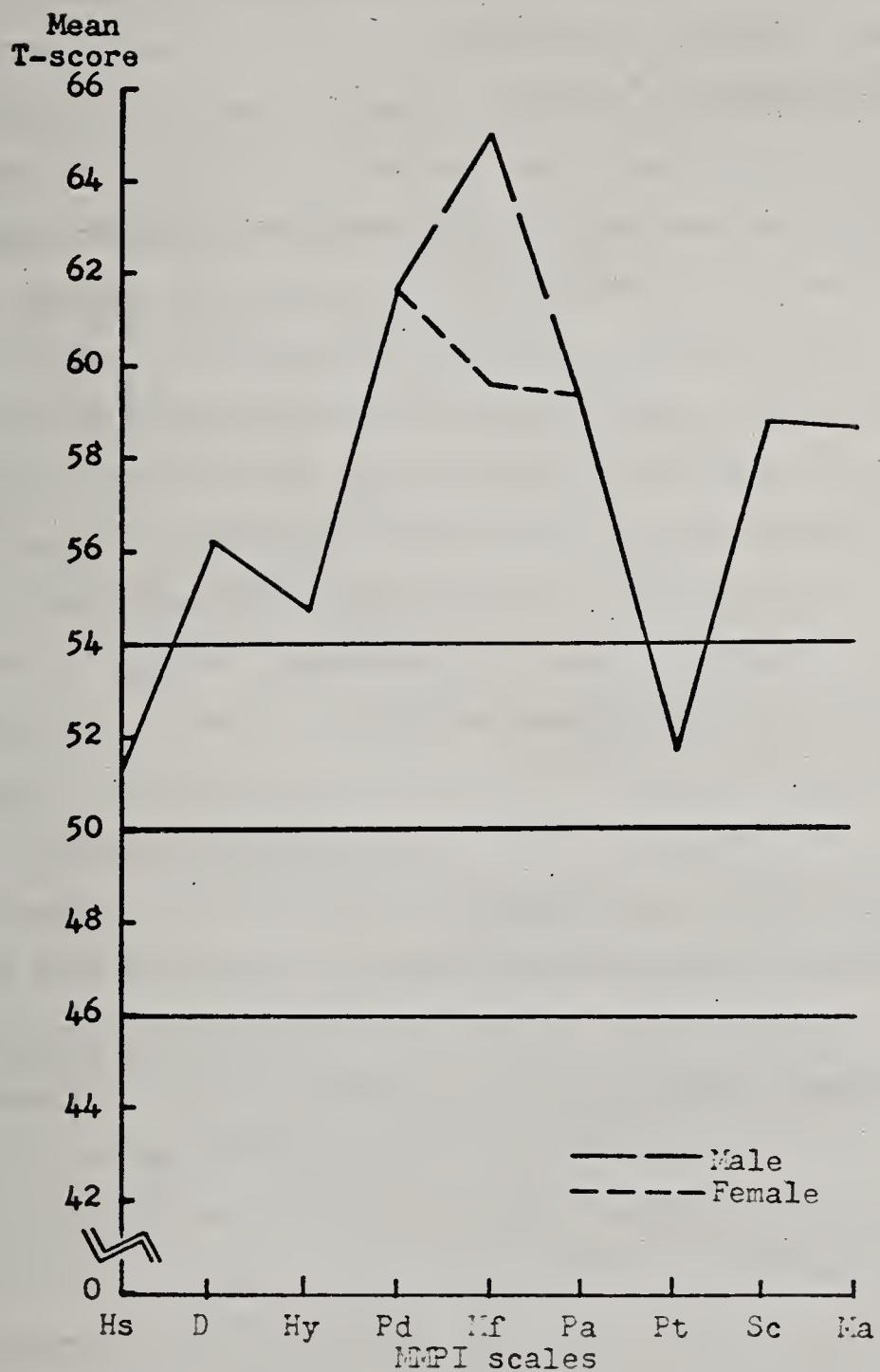


Figure 4. Mean T-score Profile on the MMPI for the Manager of Small Business Group

Figure 5, the profile for the Transcribing Typist group, had its highest elevation on the Hysteria Scale. The Transcribing Typist group seemed to exhibit a psychotic profile pattern. Comparable elevations were found on the Schizophrenia, Paranoia, and Hypomania Scales, but the Depression score was not high enough to be included in the pattern. The male subject of this group indicated a strong tendency toward femininity. His score was over two standard deviations above the mean. As this was the only male score on this scale, it could not be included in calculating the mean T-score on the Masculinity-femininity Scale for the male subjects. The group seemed to exhibit a psychopathic deviate tendency also. The scores for the remaining scales were in the normal deviation range.

The mean T-score profile for the Rehabilitation Counselor group, Figure 6, had its high point on the Schizophrenia Scale with the curve dropping slightly on the Hypomania Scale. This group did not appear to exhibit neurotic tendencies. The "neurotic triad" was within or very near the normal deviation range. The profile pattern of the Rehabilitation Counselor group on the Hysteria, Psychopathic deviate, Masculinity-femininity, and Paranoia Scales was similar to that of Group 4, Manager of Small Business, but the profile for the latter group was more elevated. The males showed a tendency toward femininity while the mean T-score for females was near the upper limit of the average normal deviation range.

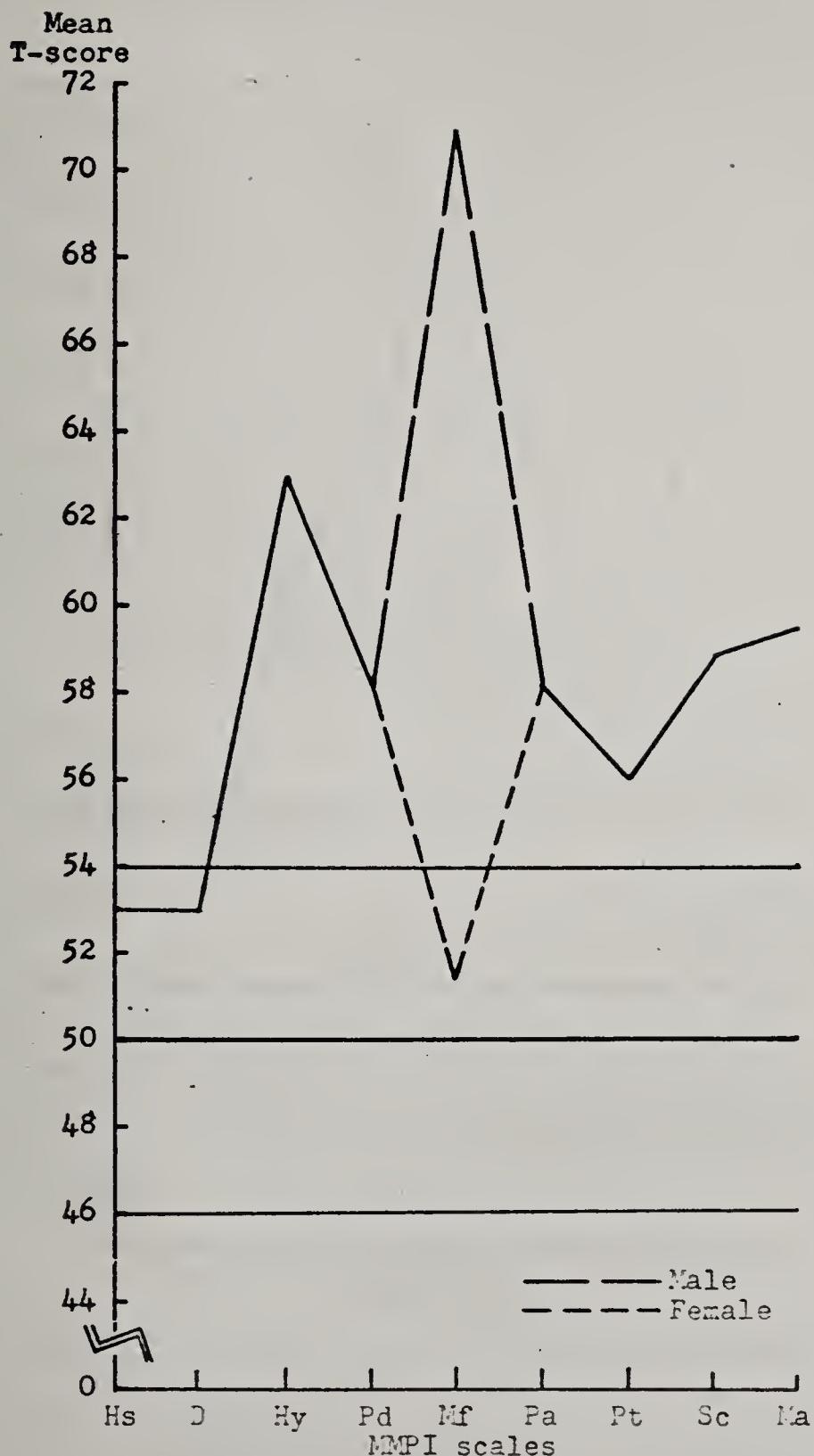


Figure 5. Mean T-score Profile on the MMPI for the Transcribing Typist Group

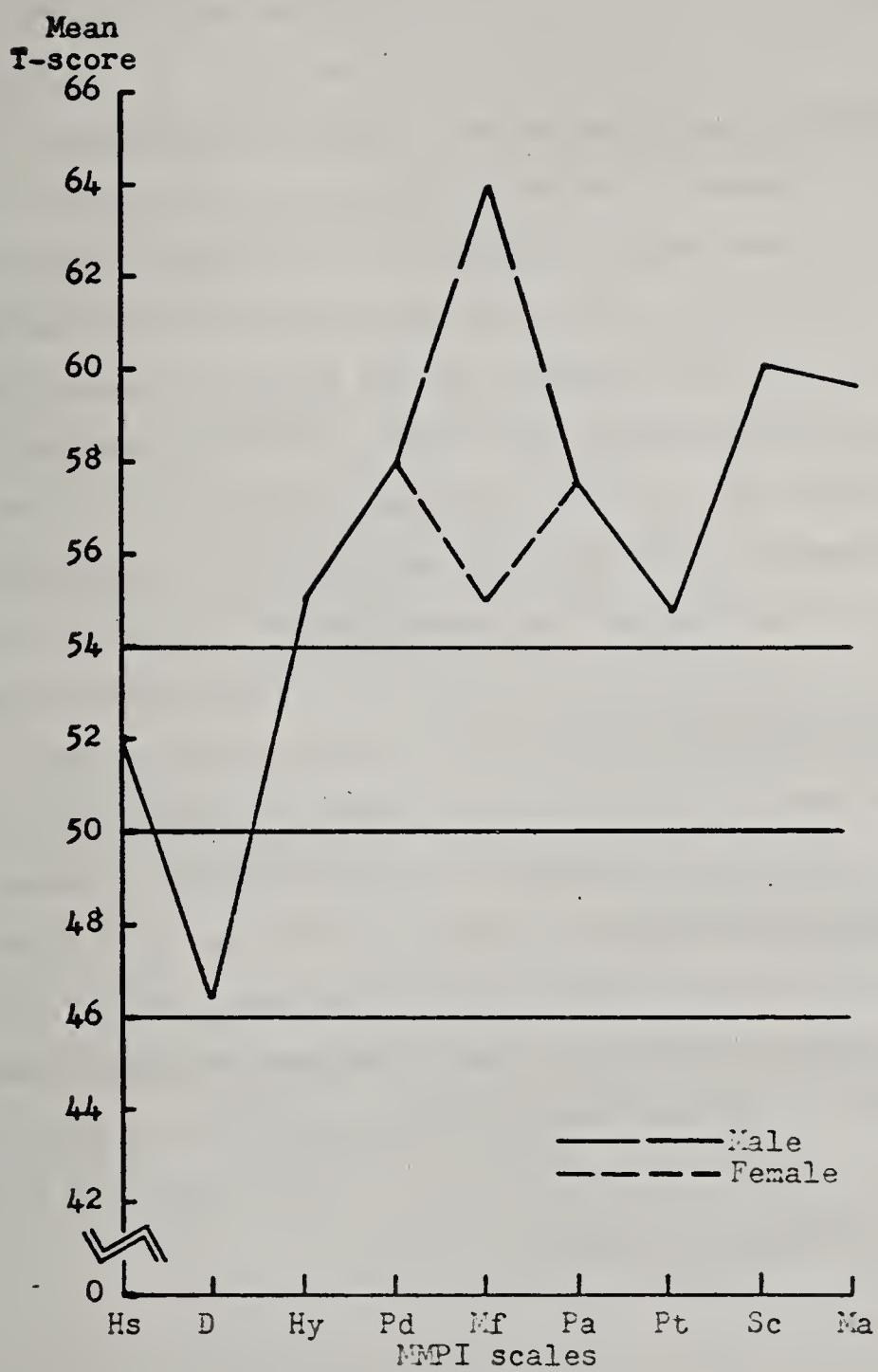


Figure 6. Mean T-score Profile on the MMPI for the Rehabilitation Counselor Group

The profile for the Broomshop Worker group, Figure 7, reveals that the T-scores for all the scales, except Psychasthenia, were above the normal deviation range. Relatively high scores for the "neurotic triad" were present. The Hypochondriasis, Depression, and Hysteria Scales were elevated approximately one standard deviation above the mean. The behavior problem profile was also present in the scores on the Psychopathic deviate, Masculinity-femininity, Hypomania, and Paranoia Scales. The psychotic profile was exhibited by an elevation on the Schizophrenia, Paranoia, Depression, and Hypomania Scales. Psychasthenia was the only scale that approached normality.

The only high points on the profile for the Piano Tuner group, Figure 8, were on the Masculinity-femininity and Hypomania Scales. The mean T-scores on six of the remaining scales were within or near the normal deviation range. The Piano Tuner group had the only T-score on the Hypochondriasis Scale that was below the mean. The MMPI authors state that the clinical significance of such a low score has not been verified.

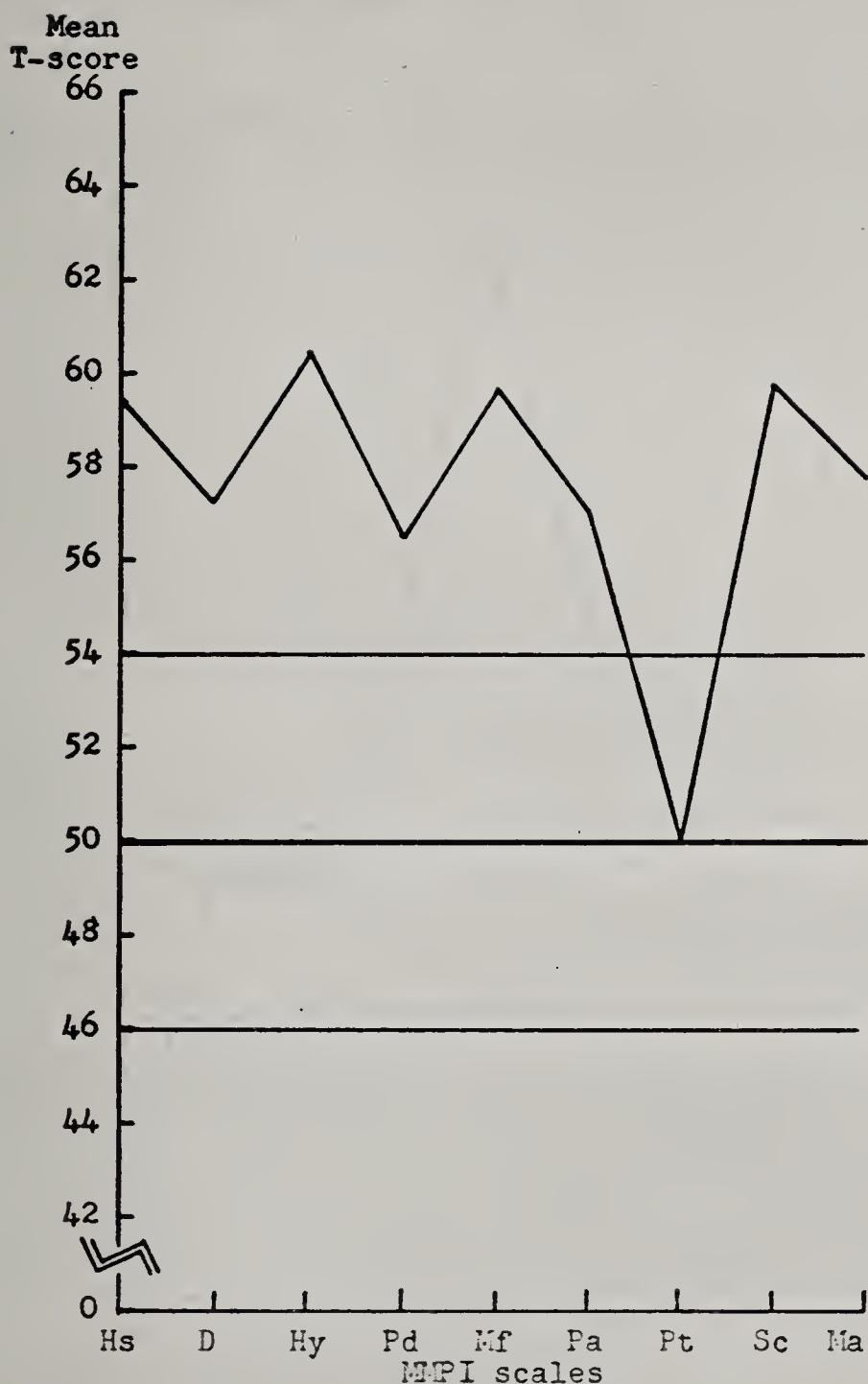


Figure 7. Mean T-score Profile on the MMPI for the Broomshop Worker Group

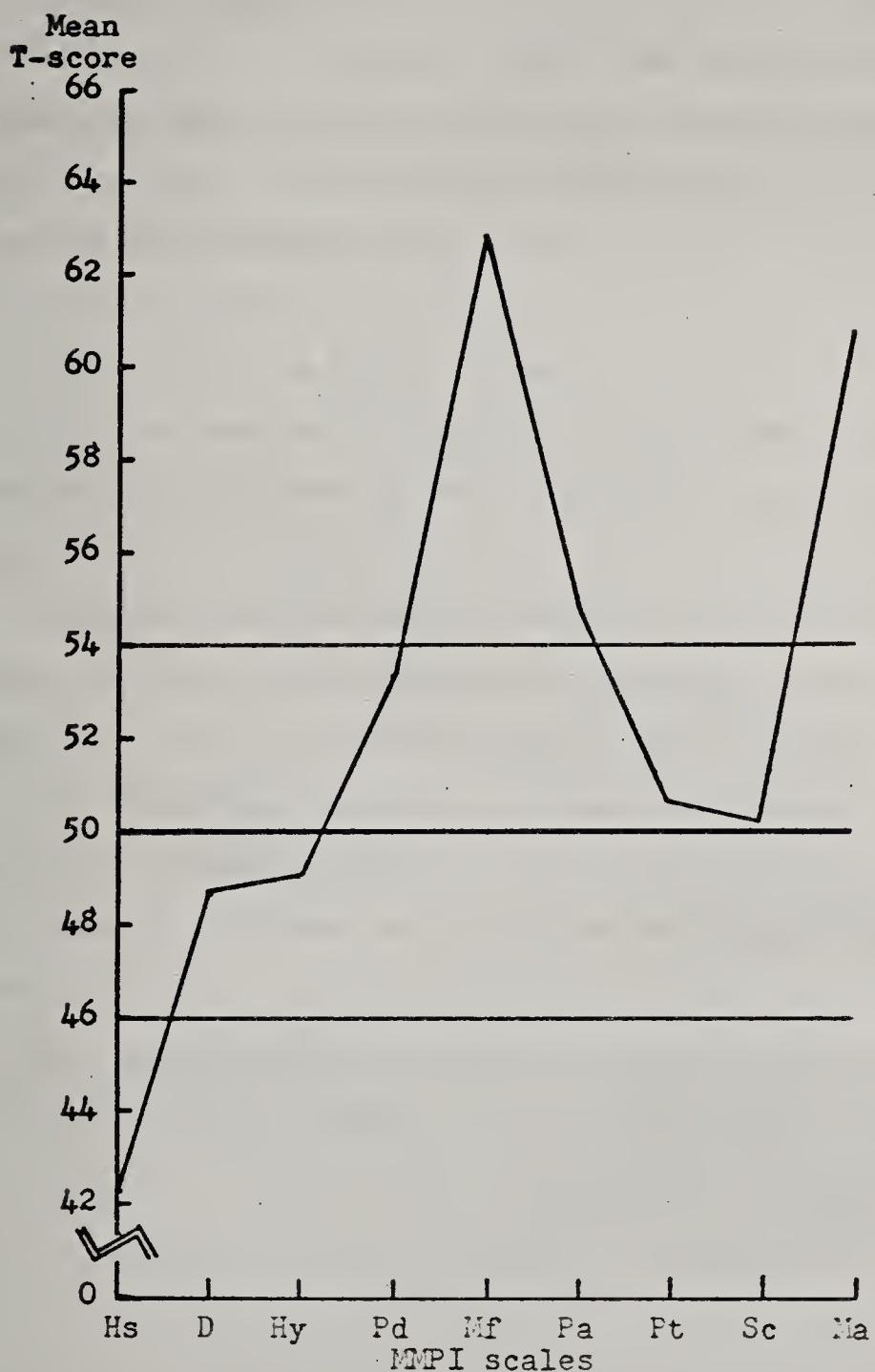
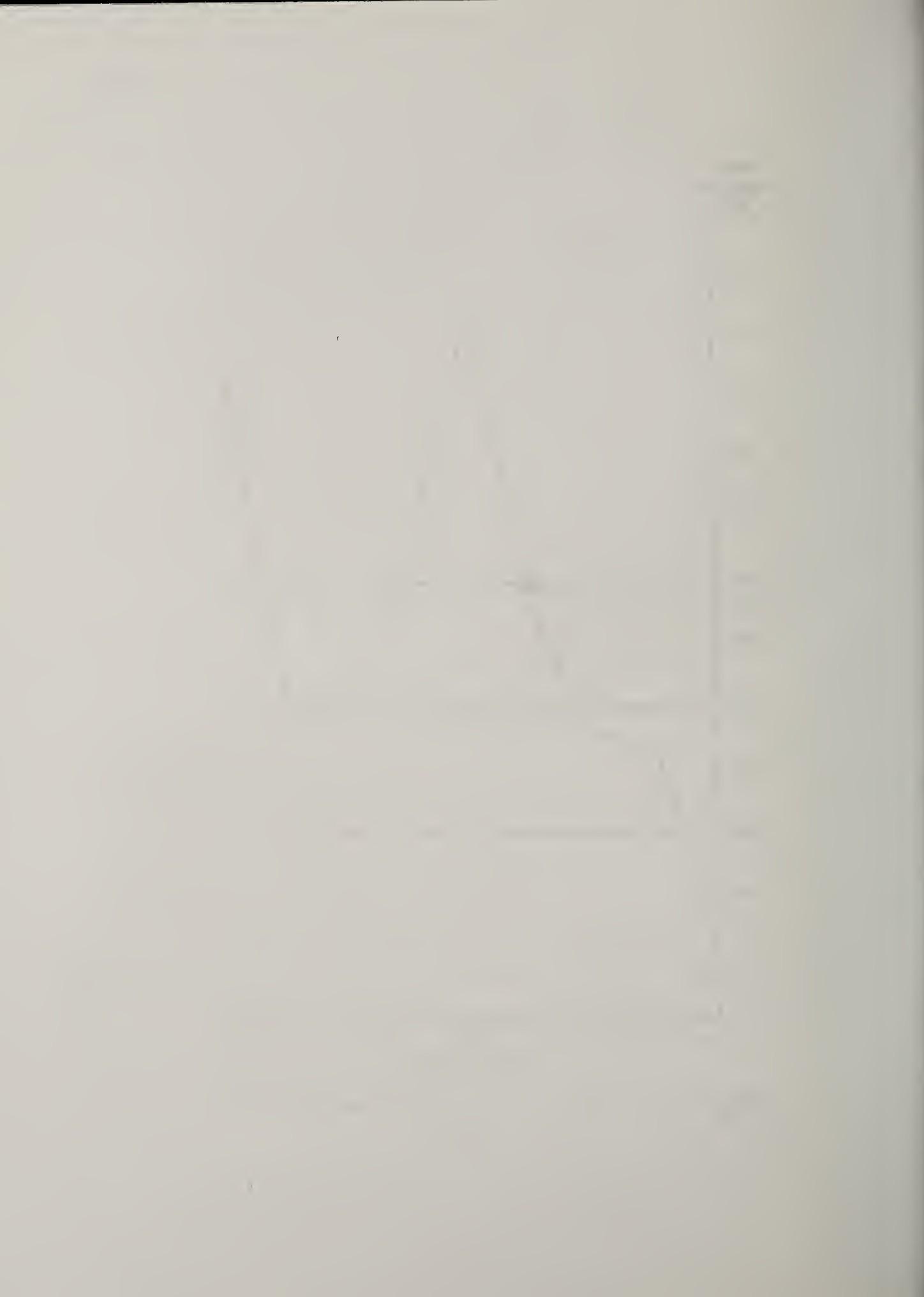


Figure 8. Mean T-score Profile on the MMPI for the Piano Tuner Group



The greatest amount of similarity seemed to exist in the profiles of the Assembler, Manager of Small Business, Transcribing Typist, the Rehabilitation Counselor groups. For this reason a composite profile for these groups, Figure 9, was drawn to graphically present any relationship that may be found to exist.

It is noted in Figure 9 that:

1. The section of the profile for these occupational groups relating to Hysteria was within the normal deviation range.

2. The last four scales seemed to portray a general pattern, although the Assembler group dropped to the upper limit of the normal deviation range on the Hypomania Scale.

3. There was not a great amount of differentiation between the occupation groups on the Hypochondriasis, Depression, Paranoia, Psychasthenia, Schizophrenia, and Hypomania Scales.

4. Approximately one-third of the scales were within the normal deviation range.

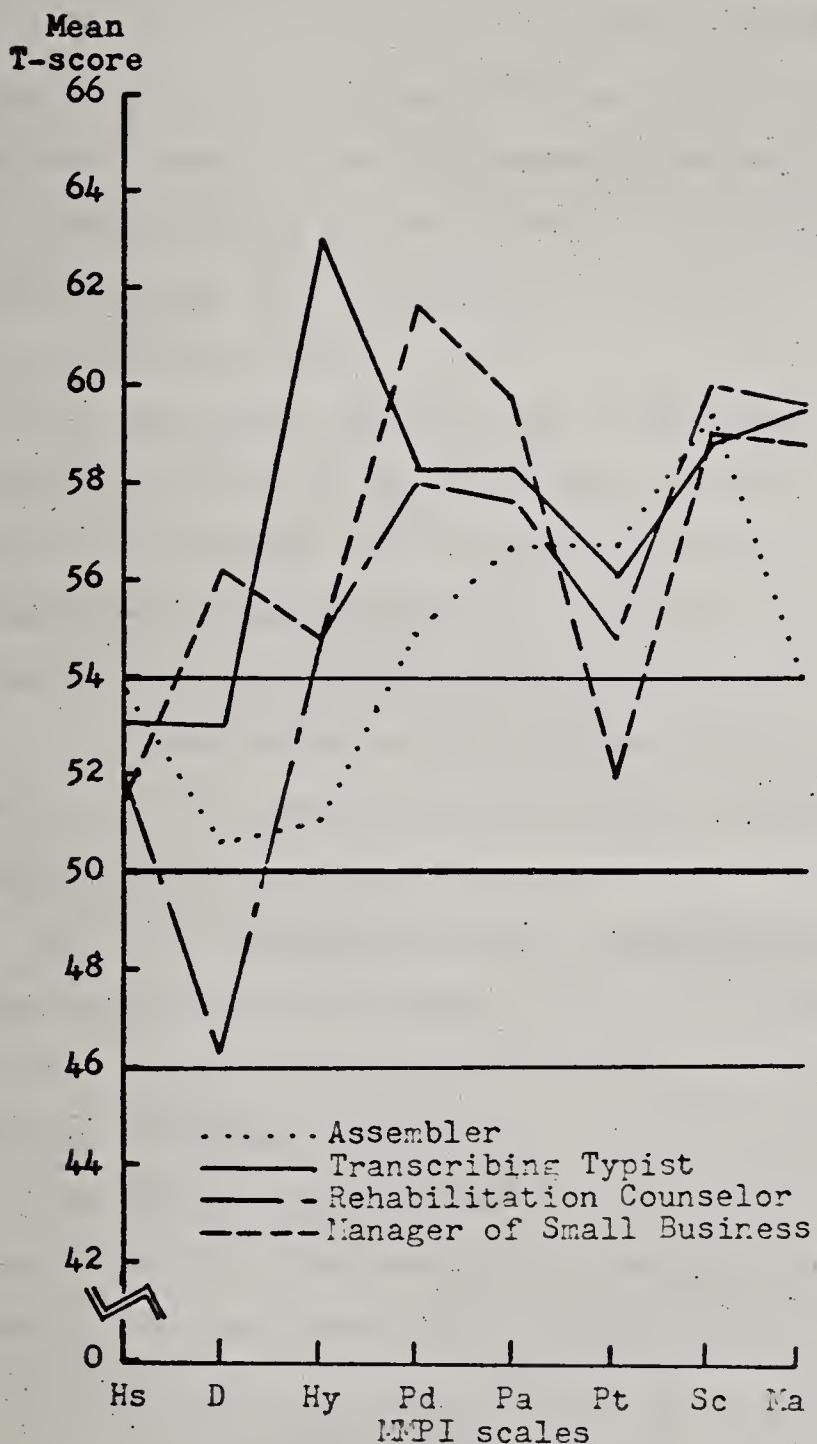


Figure 9. Composite of the Profiles for the Assembler, Manager of Small Business, Transcribing Typist, and Rehabilitation Counselor Groups

The greatest amount of similarity seemed to exist in the profiles of the Salesman, Packer, Broomshop Worker, and Piano Tuner groups. For this reason a composite profile for these groups, Figure 10, was drawn to graphically present any relationship that may be found to exist.

It is noted that:

1. There were considerable differences between the occupational groups on the first three scales, the "neurotic triad". The profiles for the Packer and Piano Tuner groups indicate that these occupational groups were within the normal deviation range for the Depression and Hysteria Scales.

2. There seemed to be a characteristic drop in the T-scores on the Psychasthenia Scale with elevations on the Paranoia and Schizophrenia Scales.

3. All occupational groups exhibited manic tendencies but not to an abnormal degree.

4. Approximately one-third of the scales were within the normal deviation range.

The Masculinity-femininity Scale is not included in Figures 9 and 10. The Masculinity-femininity scores are not comparable for both sexes and therefore cannot be combined.

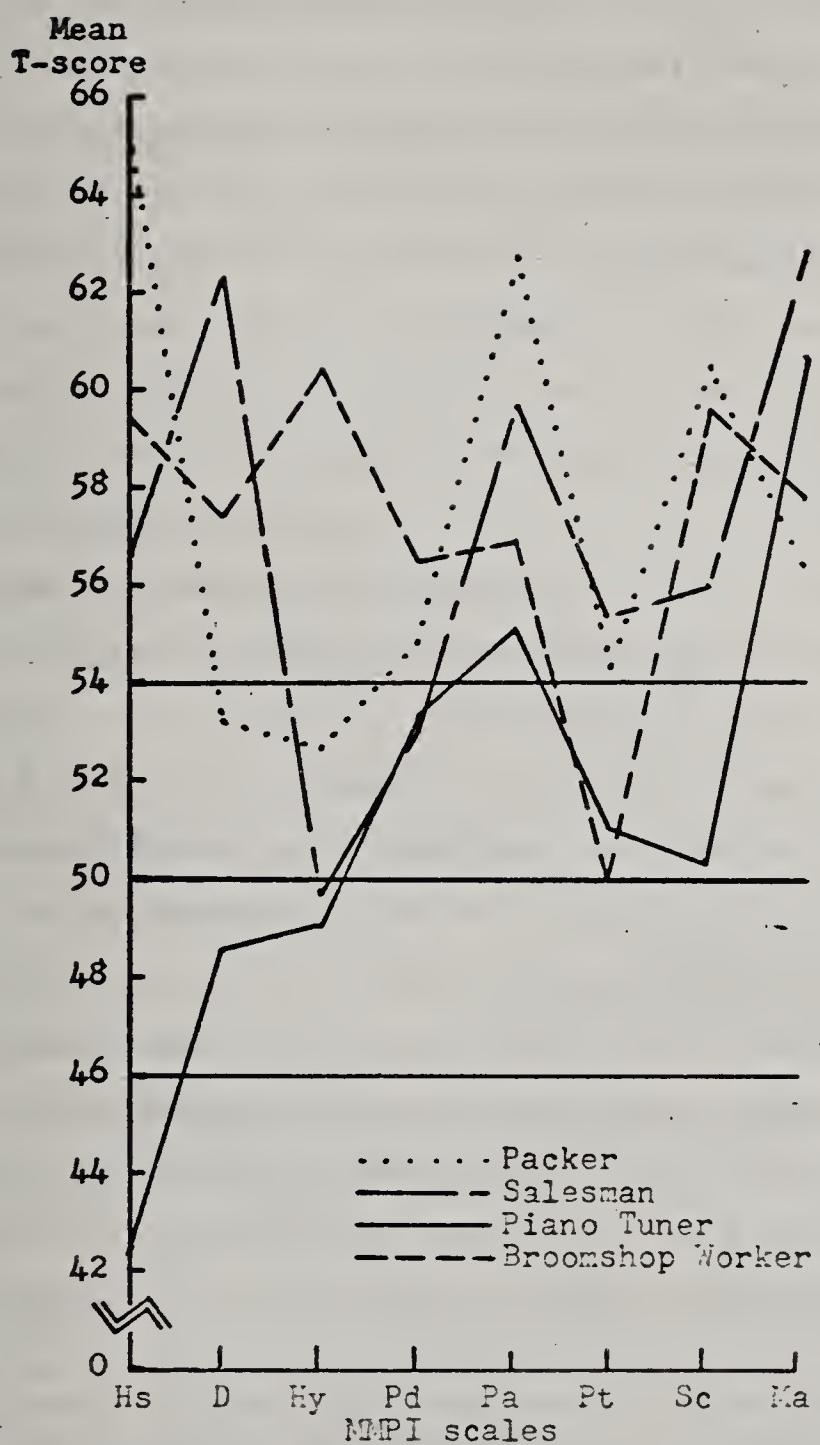


Figure 10. Composite of the Profiles for the Salesmen, Packer, Broomshop Worker, and Piano Tuner Groups

It is further noted in Figures 9 and 10 that the profiles for all occupational groups showed a characteristic drop on the Psychasthenia Scale. This drop indicates that the subjects exhibit little psychasthenic tendencies. Meehl and Hathaway⁹ pointed out that the Psychasthenia Scale has never been considered very satisfactory. This was the only MMPI scale developed which did not have a sufficiently large criterion group, so methods of internal consistency were used in the selection of items.

The validating scales were not included. The Question, Lie, and Validity scores were such that the profiles were not affected.

A study of the K-score indicates a tendency for the Transcribing Typist and Rehabilitation Counselor groups to have K-scores considerably above subjects in the other occupational groups. Their K-score was approximately one standard deviation above the mean. Nearly all the subjects in these two occupational groups had a college education. This coincides with Meehl and Hathaway's¹⁰ opinion that college graduates have a T-score of about 60 on the K scale.

There are certain limits in which the K-factor operates effectively. Meehl and Hathaway¹¹ contend that unless a

⁹Meehl, P. E., and Hathaway, S. R., "The K Factor as a Suppressor Variable in the Minnesota Multiphasic Personality Inventory," Journal of Applied Psychology 30:549, October, 1946.

¹⁰Ibid., p. 559.

¹¹Ibid., p. 544.

profile shows scores above 65 it is impossible even with a high K to tell whether the profile is elevated or whether a normal person took a defensive attitude when he took the test. On this basis the K-factor was not included in the discussion of the profiles for the occupational groups. None of the profiles for the occupational groups reached points above 65.

The authors¹² of the MMPI stated that the profiles of both normal and abnormal persons may have some similarity to three generalized patterns which they refer to as the neurotic, psychotic, and behavior problem profiles. The scales included in the neurotic profile are Hypochondriasis, Depression, and Hysteria; in the psychotic profile, they are Schizophrenia and Paranoia; and in the behavior problem profile, they are Psychopathic deviate, Masculinity-femininity and Hypomania.

A comparison of the three general profiles is shown in Figure 11. It is noted that all the occupational groups, except Piano Tuner, seemed to exhibit psychotic tendencies, but not to an abnormal extent. The mean of the mean T-scores comprising the psychotic profile for the Piano Tuner group was in the normal deviation range and approximately one standard deviation below that of the other occupational groups.

¹²Hathaway, S. R., and McKinley, J. C., op.cit., p.
25.

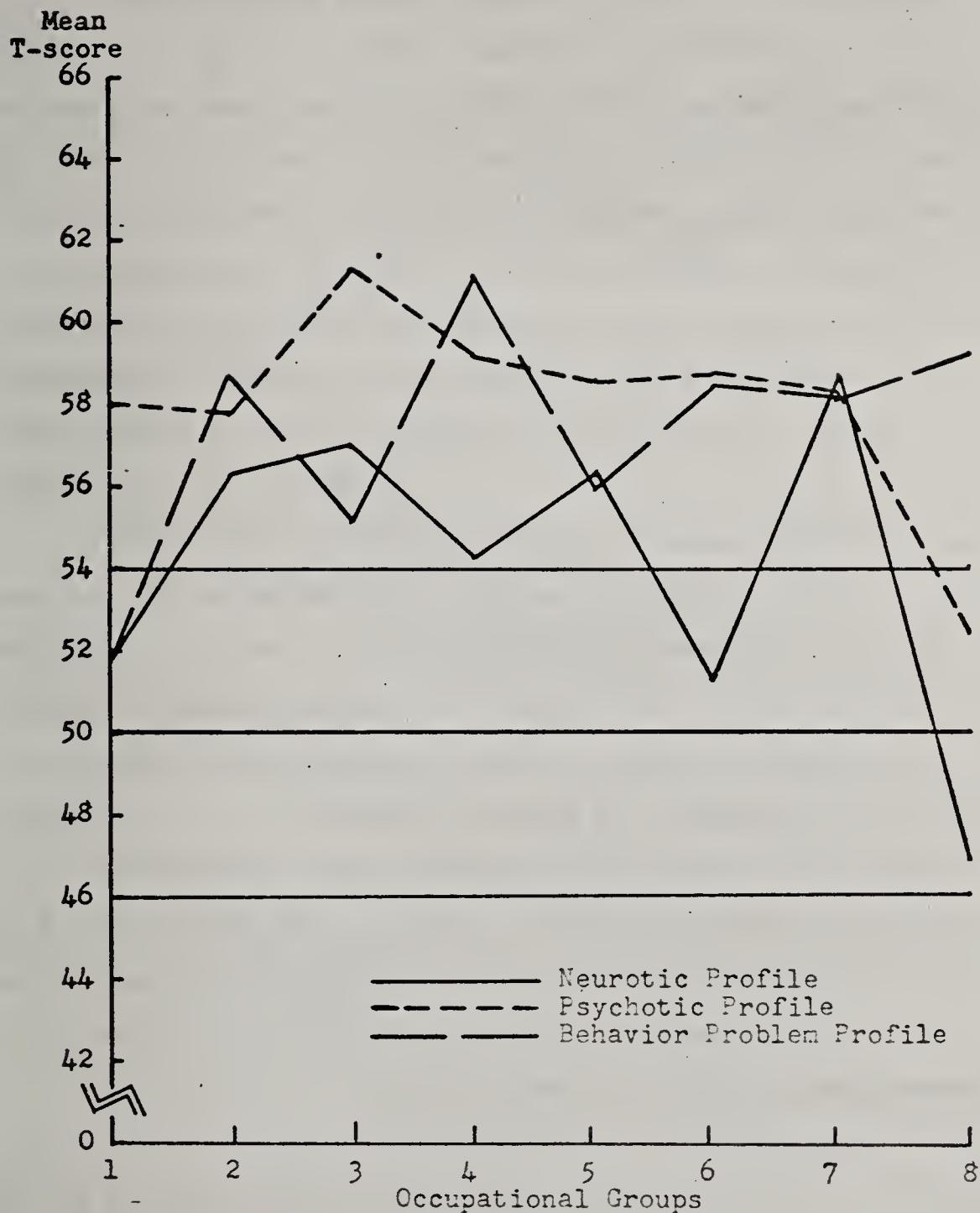


Figure 11. Comparison of the Neurotic, Psychotic, and Behavior Problem Profiles for the Occupational Groups

The Broomshop Worker group exhibited similar tendencies on the three profiles. Such tendencies probably resulted from their failure to find more desirable occupations. It was the last recourse for employment for several subjects. This was also brought out in the attitudes of the subjects toward their job. Only one of the ten subjects stated he was satisfied with his job and had no other choice of an occupation. The other nine subjects stated that they liked their work but failed to express much enthusiasm. Their feeling was "it's a job."

All groups, except the Assembler group, exhibited behavior problem tendencies. This was especially evident for Salesmen, Managers of Small Businesses, Rehabilitation Counselors, Broomshop Workers, and Piano Tuners. None of the groups were in the abnormal behavior range, although the Managers of Small Business group was the most deviant.

The highest point on the neurotic profile was reached by the Broomshop Worker group. The other occupational groups were relatively close to the normal deviation range and therefore seemed to exhibit little neurotic tendency.

It is noted in Figure 11 that each occupational group had a distinct pattern, with the Salesman and Broomshop Worker groups showing the greatest similarity.

The mean T-score on each scale of the MMPI for the various occupational groups is presented in Table 4.

TABLE 4. MEAN T-SCORES OF THE OCCUPATIONAL GROUPS ON EACH MMPI SCALE

Occupational Group	Hs	D	Hy	Pd	Mf*	Mf*	Pa	Pt	Sc	Ma
Assembler	53.83	50.50	51.00	54.83	49.50	42.00	56.67	56.67	59.50	54.00
Salesman	56.67	62.50	49.67	53.17	60.67		59.83	55.33	56.00	62.83
Packer	65.00	53.20	52.80	55.00	54.20		62.80	54.40	60.40	56.20
Manager of small business	51.44	56.33	54.89	61.89	65.20	59.75	59.67	51.89	58.89	58.67
Transcribing typist	53.16	53.00	63.16	58.16	71.00*	50.60	58.16	56.00	58.89	59.50
Rehabilitation counselor	52.00	46.33	55.00	58.00	64.00	55.00	57.67	54.67	60.00	58.67
Broomshop worker	58.70	57.40	60.30	56.40	59.80		57.00	50.00	59.80	57.90
Piano tuner	42.33	48.67	49.00	53.50	63.17		55.00	50.83	50.17	61.00
Mean of the means of the groups	54.14	53.49	54.48	56.37	60.94	51.84	58.35	53.72	57.96	58.59

*Males

*Females

*Only one subject in this category so the score was not used in calculations.

It is noted in Table 4 that:

1. The Packer group had the highest mean T-score on the Hypochondriasis Scale while the Piano Tuner group had the lowest score on this scale. The score made by the Piano Tuner group was below the normal deviation range.
2. The female managers of small businesses tended to deviate toward masculinity on the Masculinity-femininity Scale while the female assemblers deviated toward femininity.
3. The mean T-score made on seven of the nine scales by the Assembler group seemed to be somewhat lower than the mean of the means for the occupational groups. Only the scores achieved on the Paranoia, Psychasthenia, and Hypomania Scales were more than one-half a standard deviation above the mean of 50.
4. The scores achieved by the Broomshop Worker group on all scales except Psychasthenia were more than one-half a standard deviation above the mean.
5. Excluding the Masculinity-femininity Scale, the mean of the means indicated that the occupational groups deviate to the greatest extent on the Paranoia, Schizophrenia, and Hypomania Scales.

The χ^2 values of the mean T-scores on each MMPI scale for each occupational group are given in Table 5. These values were computed by using the formula $\chi^2 = \frac{(f_o - f_t)^2}{f_t}$, in which f_o was the mean T-score given in Table 4 and f_t

TABLE 5. CHI SQUARE VALUES OF THE MEAN T-SCORES ON EACH MMPI SCALE FOR EACH OCCUPATIONAL GROUP

Occupational group	Hs	D	Hy	Pd	Mf*	Mf*	Pa	Pt	Sc	Ma
Assembler	.29	.00	.02	.47	.01	1.28	.89	.89	1.80	.32
Salesman	.89	3.12	.00	.20	2.28		1.93	.57	.72	3.29
Packer	4.50	.20	.16	.50	.35		3.28	.39	2.16	.77
Manager of small business	.04	.80	.48	2.83	4.62	1.90	1.87	.07	1.58	1.50
Transcribing typist	.20	.18	3.46	1.33	8.82	.01	1.33	.72	1.58	1.80
Rehabilitation counselor	.08	.27	.50	1.28	3.92	.50	1.18	.44	2.00	1.50
Broomshop worker	1.51	1.09	2.12	.82	1.92		.98	.00	1.92	1.25
Piano tuner	1.18	.03	.02	.24	3.47		.50	.01	.00	2.42

*Males

*Females

was 50, the theoretical mean T-score. The χ^2 values indicate the deviation of the occupational groups from the theoretical mean.

The significantly different scales for each occupational group are presented in Table 6. These scales were determined as follows:

1. The largest values of χ^2 on each scale were added together according to the formula $\chi^2 = \sum \frac{(f_o - f_t)^2}{f_t}$.
2. The number of degrees of freedom was calculated.
3. The significance of χ^2 was obtained from the chi square table.

For example, the χ^2 values on the Hypochondriasis Scale were added for the Packer, Broomshop Worker, and Piano Tuner groups. In this example, there were two degrees of freedom and χ^2 was significant at the 5 per cent level of confidence.

All scales designated in Table 6 except the Masculinity-femininity Scale, were significant at the 5 per cent level. The Masculinity-femininity was significant at the 1 per cent level of confidence.

TABLE 6. SIGNIFICANT* MMPI SCALES FOR EACH OCCUPATIONAL GROUP

Occupational group	Hs	D	Hy	Pd	Mf*	Mf‡	Pa	Pt	Sc	Ma
Assembler									x	
Salesman		x			x		x			x
Packer	x						x		x	
Manager of small business					x	x	x		x	x
Transcribing typist			x	x			x			x
Rehabilitation counselor				x	x		x		x	x
Broomshop worker	x	x	x		x				x	
Piano tuner	x				x					x

*Level of significance 5 per cent or above

‡Males

§Females

It is noted in Table 6 that:

1. On the Hypochondriasis, Depression, Hysteria, and Psychopathic deviate Scales from two to three groups had significant scores.
2. In comparison, the remainder of the scales included five groups.
3. The Assembler group deviated least from the theoretical norm. This group differed significantly on only one scale.

4. The Manager of Small Business, the Rehabilitation Counselor, and the Broomshop Worker groups had significant scores on five scales.

5. None of the females deviated to a significant degree on the Masculinity-femininity Scale.

6. None of the groups deviated to a significant degree on the Psychasthenia Scale.

In comparing Tables 6 and 4 it is noted that:

1. There was a great difference between the mean T-score on the Hypochondriasis Scale of the Packer and Piano Tuner groups. The mean T-score of the latter group was considerably below the mean. The difference between the Piano Tuner and Broomshop Worker groups was not as great though it was more than one and one-half standard deviations. The mean T-score of the Broomshop Worker group was about as far above the mean as that of the Piano Tuner group was below the mean.

2. The Salesman and Broomshop Worker groups deviated the greatest extent on the Depression Scale.

3. The greatest deviations on the Hysteria Scale were made by the Transcribing Typist and Broomshop Worker groups. The mean T-score for both groups was more than one standard deviation above the mean.

4. The greatest deviation from the mean of the Psychopathic deviate Scale existed for the Manager of Small Business, the Transcribing Typist, and the Rehabilitation Counselor groups. Very similar T-scores were found for these three

occupational groups. For this reason it was felt that the Psychotic deviate Scale could not be used to discriminate between them.

Summary

The purpose of this chapter was to determine whether the blind employed in the selected occupational groups showed significantly different personality characteristics. The levels of confidence were set at 5 and 1 per cent.

Mean T-scores for each of the occupational groups on each MMPI scale were computed and χ^2 values were calculated for each. Chi square was employed to determine the significant scales for each group. The Masculinity-femininity Scale was significant at the 1 per cent level while the remaining eight scales were significant at the 5 per cent level of confidence. The last four scales on the profile for the separate occupational groups revealed some similarity of personality pattern. The first four scales seemed to show the greatest differences in personality pattern.

A comparison of the Neurotic, Psychotic, and Behavior Problem profiles for the occupational groups was made. The Broomshop Worker group seemed to be the most deviant. They exhibited almost equal tendencies on all three profiles. This group had a mean T-score on each profile approximately one standard deviation above the mean.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Rehabilitation counselors of the blind are faced with the problem of placing the employable blind in occupations in which they can work successfully. They have believed that individuals who work in certain occupations have personality characteristics which are different from those who work in other occupations. They attempt to be reasonably certain that each blind worker is placed in a position commensurate with his abilities, as workers are not free to move from job to job as are sighted workers. This restriction results largely from the fewer jobs in which the blind can be employed as compared to sighted workers.

To do their work effectively and efficiently, rehabilitation counselors of the blind have been handicapped by the lack of objective devices in the area of personality testing which would aid them in counseling their clients.

This investigation was carried out for the purpose of aiding rehabilitation counselors of the blind so they can counsel their clients more effectively and efficiently in order to place them in jobs where they can enjoy optimal success. The principal concern was to determine the counseling implications of the MMPI. To do this, it was necessary to determine whether blind workers in selected occupations

exhibited personality patterns that were significantly different from those of blind workers employed in other occupations.

Eight occupations were selected for the study on the basis of results from a study made by the Indiana Board of Industrial Aid and Vocational Rehabilitation, which listed all occupations in which the blind had been placed over a period of eight years as well as the number of blind workers placed in each occupation. The selected occupations were: assembler, salesman, packer, manager of small business or vending stand, transcribing typist, rehabilitation counselor, broomshop worker, and piano tuner. A total of 54 subjects were included in the study. The criteria used for their selection were: (1) they had worked three years or more in a particular occupation, and (2) rehabilitation counselors considered them to be successfully employed. The subjects were contacted by the rehabilitation counselors and appropriate times were set for them to come to the office of the Board of Industrial Aid and Vocational Rehabilitation for testing purposes. Most of the testing was done at night since the majority of the subjects worked during the day.

The Shortened Version of the MMPI was used. The statements were recorded on plastic discs adapted for use on the Edison Voicewriter. Seven discs were required to record the statements included in the Shortened Version of the MMPI. Twelve seconds were allowed for each subject to listen and to

respond to a statement. To permit ease of handling, only one side of the disc was used. Each subject responded to the statements while seated at a table. The Edison Voicewriter was located near his left hand and directly in front of him was a box which contained 366 three by five inch cards. Each card was numbered to correspond to a statement of the MMPI. A piece of sandpaper slightly larger than the cards separated the group of cards that corresponded to the statements on each record. The subject was thus able to keep the groups of cards and the records synchronized. Privacy was maintained. Each subject was alone in the room and he used a headset. When the subject finished or needed assistance, he used the office intercommunication system.

After the completion of the Inventory the cards from each of the three boxes were fastened together. Later, each subject's responses were recorded on an IBM answer sheet and the sheets were scored by the Indiana University Bureau of Measurement. An item analysis revealed that four items were inappropriate for use with the blind. The responses for these four items were scored as "Cannot Say". This did not affect the subjects' Question scores.

A personal data sheet was devised to collect similar information for each subject. Most of the information was secured from the files in the office of the Board of Industrial and Vocational Rehabilitation for the Blind. The confidential nature of this information made it necessary that

a staff member transfer the required data from the records to the personal data sheet. Additional information for the personal data sheet was secured by means of an interview after the subject had completed the Inventory.

It was felt that the use of the Shortened Version of the MMPI did not destroy the value of K. The raw K score was obtained by extrapolation. The conversion table in the MMPI Manual was used to change the raw scores on each scale to T-scores. These were recorded on a master data sheet.

The subjects were grouped according to occupations and assigned a case number. Mean T-scores on each scale were computed for each occupational group. χ^2 values for each scale were then calculated for each group. The formula,

$$\chi^2 = \frac{(f_o - f_t)^2}{f_t}$$
, was used, in which f_o was the observed mean

T-score and f_t was a mean T-score of 50 as given by the MMPI authors. To determine the groups that were significantly different, the largest χ^2 values were added according to the

$$\text{formula } \chi^2 = \sum \frac{(f_o - f_t)^2}{f_t}.$$
 After the number of degrees of

freedom was calculated, the probability of significance of χ^2 was obtained from a chi square table.

It was hypothesized that there were no differences among the blind groups working in the selected occupations. The null hypothesis based on the assumption that there was no difference between the subjects studied and what was

expected was used to test the adequacy of the hypothesis. The observed differences were tested at either the 1 or the 5 per cent level of significance.

Conclusions

It is noted that the blind workers in the selected occupations do not show abnormal behavior patters as interpreted by the authors of the MMPI. Although high scores on the particular MMPI scales do indicate differences in the personality patterns of the selected occupational groups, rehabilitation counselors should use the results of this investigation with caution.

The following conclusions are based upon an analysis of the MMPI results:

1. Each occupational group reveals different personality profiles though individual scales did not reach the limits of abnormality.
2. The K scores for the two selected groups that consisted largely of college graduates coincide with past investigation relative to elevated K scores for college graduates.
3. It seems that the Shortened Version of the MMPI can differentiate personality patterns of blind workers in selected occupations and therefore has value in counseling the blind.

4. Of the groups studied, the assemblers have the only low mean T-score on the Hypomania Scale. Their highest score is on the Schizophrenia Scale.

5. The Salesman group has the highest depression and hypomania scores and only the Packer group exceeds their score on the Paranoia Scale.

6. The packers achieve highest scores on the Hypochondriasis and Paranoia Scales.

7. The Manager of Small Business group has the highest score on the Psychopathic deviate scale as well as a relatively high paranoia score.

8. The Transcribing Typist group has the highest score on the Hysteria Scale. It also has relatively high scores on the Psychopathic deviate, Paranoia, Schizophrenia, and Hypomania Scales.

9. The Rehabilitation Counselor group has its highest scores on the Schizophrenia and Hypomania Scales.

10. The Broomshop Worker group has a distinctly different profile from the other groups in that its mean T-scores on eight scales are considerably above normal deviation range while its mean T-score on the Psychasthenia Scale is at the theoretical mean of 50.

11. The Piano Tuner group is the only group which has a hypochondriasis score below the normal deviation range. The mean T-score of the Piano Tuner group on the Hypomania Scale is exceeded only by that of the salesmen.

12. The highest elevation on the Psychotic Profile is reached by the packers while the lowest point is reached by the Piano Tuner group.

13. The Manager of Small Business group achieve the highest mean T-scores on the Behavior Problem Profile.

14. The Neurotic, Psychotic, and Behavior Problem Profile have approximately the same elevations for the Broomshop Workers, about one standard deviation above the mean.

Recommendations

It is necessary that the implications for counseling the blind workers be considered within the limitations of this study. The following recommendations are based upon the results of this investigation:

1. This investigation should serve as a basis for further study and experimentation in this area.

2. A larger population of blind workers should be studied, preferably blind workers in several states.

3. The occupations selected for further experimentation should be representative of those in which the greatest numbers of blind workers are employed.

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APPENDIX

APPENDIX

Personal Data Sheet

1. Name _____
 2. Sex _____ 3. AGE _____ 4. MARITAL STATUS _____
 5. Education _____
 6. Degree of blindness _____
 7. Cause of blindness _____
 8. Age at onset of blindness _____
 9. Occupation, if any, prior to blindness _____
 10. Length of Rehabilitation period _____
 11. Length of Training if any _____
 12. How long at present occupation _____
 13. Other occupations engaged in since becoming blind _____

 14. Reasons for quitting _____
 15. Attitude toward present position _____
 16. Other occupational choices _____

- Reasons _____

